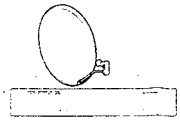
THOMSON CONSUMER ELECTRONICS

THOMSON

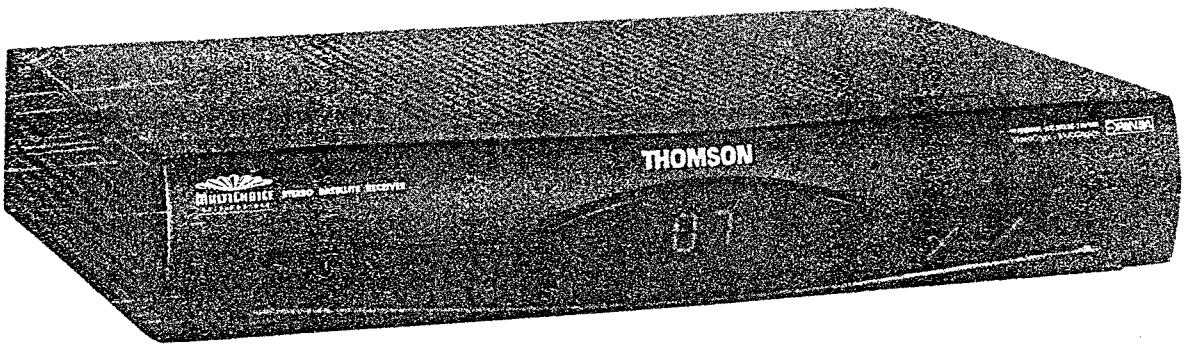
SAT



SERVICE MANUAL
DOCUMENTATION TECHNIQUE
TECHNISCHE DOKUMENTATION
DOCUMENTAZIONE TECNICA
DOCUMENTACION TECNICA

STL6

TSR 610V



WARNING :	*Before servicing this chassis read the safety recommendations.*
ATTENTION :	*Avant toute intervention sur ce châssis, lire les recommandations de sécurité.*
ACHTUNG :	*Vor jedem Eingriff auf diesem Chassis, die Sicherheitsvorschriften lesen.*
ATTENZIONE :	*Prima di intervenire sullo chassis, leggere le norme di sicurezza.*
IMPORTANTE :	*Antes de cualquier intervención, leer las recomendaciones de seguridad.*

Code : 103 483 60 - 05/95

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TECHNICAL DATA - CARACTERISTIQUES TECHNIQUES - TECHNISCHE DATEN - DATI TECNICI - DATOS TECHNICOS

EQUIPMENT TYPE

Stereo satellite receiver	
Integrated Decoder	: VideoCrypt 2 - MultiChoice
Number of programmes	: 199
UHF modulator	: PAL BG CCIR system, Ch 30 - 39 (factory set to Ch 38)

POWER CONSUMPTION

25 W max.

RECEPTION STANDARD - TUNER

Reception frequency	: 920 - 2050 MHz
Polarity switch	: Vertical 13 V (+ / - 0.5 V), Horizontal 17.5 V (+ / - 0.5V)
Input impedance	: 75 Ohms
IF	: 479.5 MHz
IF bandwith	: 27 MHz
Input level	: from -60 dBm to -30 dBm
Image rejection	: 40 dB (average)

AUDIO

Audio bandwidth	: Wide band 150 kHz Wegener PANDA 1 50 µs de-emphasis
Frequency range	: 5.00 - 9.99 MHz controllable in 10 kHz steps
Preset Sub-Carriers	: Mono 1 6,50 MHz
	Mono 2 7,02 MHz
	Mono 3 7,20 MHz
	Mono 4 7,38 MHz
	Mono 5 7,56 MHz
	Mono 6 7,74 MHz
	Mono 7 7,92 MHz
	Mono 8 8,10 MHz
	Mono 9 8,28 MHz
	Stereo 1 7,02 / 7,20 MHz
	Stereo 2 7,38 / 7,56 MHz
	Stereo 3 7,74 / 7,92 MHz
	Stereo 4 8,10 / 8,28 MHz

Panda® is a registered trademark of Wegener Communications, Inc.

POWER SUPPLY

198 / 264 V - 50 Hz

SCART CONNECTORS

Video output	: 1 V pp (+ / - 2 dB) at 75 Ohms
Video frequency range	: 25 Hz - 4.8 MHz (+ / - 1.5 dB)
Video de - emphasis (PAL)	: on 405.1 CCIR (625 lines)
Baseband output	: 1 Vpp (+ / - 2 dB) at 75 Ohms
Frequency range	: 25 Hz - 10.5 MHz (+ / - 1.5 dB)
Audio frequency range	: 30 Hz - 15 kHz
Audio output	: 500 mV rms / 10 k Ohms

DIMENSIONS

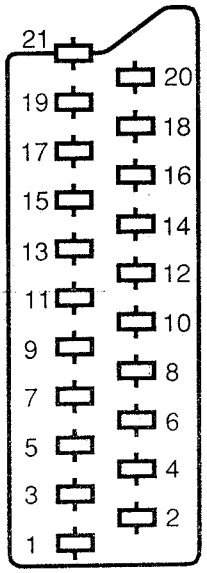
H = 68 mm W = 360 mm D = 235 mm

WEIGHT

3 kg (typical, when packed)

SCART CONNECTORS - PRISE PERITELEVISION - UNIVERSALBUCHSE - PRESA PERITELEVIZIONE -TOMA PERITEL

Socket Viewed from Rear Panel
Prise vue côté utilisateur



		ENGLISH	FRANÇAIS	DEUTSCH	ITALIANO	ESPAÑOL
1	⊖→	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
2	→⊕	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
3	⊖→	AUDIO "L"	AUDIO "G"	AUDIO "L"	AUDIO "S"	AUDIO "I"
4	—	AUDIO	AUDIO	AUDIO	AUDIO	AUDIO
5	—	" BLUE "	" BLEU "	"BLAU"	"BLU"	"AZUL"
6	→⊕	AUDIO "L" MONO	AUDIO "G" MONO	AUDIO "L" MONO	AUDIO "S" MONO	AUDIO "I" MONO
7	→⊕	" BLUE "	" BLEU "	"BLAU"	BLU	AZUL
8	→⊕	SLOW SWITCH	COMMUT. LENTE	LANGSAMUMS CHALTUNG	"COMMUTAZIONE LENTA"	"CONMUTACION LENTA"
9	—	" GREEN "	"VERT"	"GRÜN"	"VERDE"	"VERDE"
10	NC					
11	→⊕	" GREEN "	"VERT""	"GRÜN"	"VERDE"	"VERDE"
12	NC					
13	—	" RED "	"ROUGE"	"ROT"	"ROSSO"	"ROJA"
14	NC					
15	→⊕	" RED "	"ROUGE"	"ROT"	"ROSSO"	"ROJA"
16	→⊕	FAST SWITCH	COMMUT. RAPIDE	SCHNELLUMS CHALTUNG	"COMMUTAZIONE RAPIDA"	"CONMUTACION RAPIDA"
17	—	VIDEO	VIDÉO	VIDÉO	VIDÉO	VIDÉO
18	—	FAST SWITCH	COMMUT. RAPIDE	SCHNELLUMS CHALTUNG	"COMMUTAZIONE RAPIDA"	"CONMUTACION RAPIDA"
19	⊖→	VIDÉO	VIDÉO	VIDÉO	VIDÉO	VIDÉO
20	→⊕	VIDEO OR "SYNC"	VIDEO SYNCHRO	VIDÉO ODER SYNCHRO	VIDEO O SINCRO	VIDEO O SINCRO
21	⊖→	PLUG SCREEN BOX -	BLINDAGE FICHE	ABSCHIRMUNG DES STECKERS	ARMATURA DELLA SPINA	BLINDAJE DEL ENCHUFE

⊖→ : OUTPUT - SORTIE - AUSGANG - USCITA - SALIDA

→⊕ : INPUT - ENTRÉE - EINGANG - ENTRATA - ENTRADA

— : EARTH - MASSE - MASSE - MASSA - MASA

⚠ *Indicates critical safety components, and identical components should be used for replacement.*

Le remplacement des éléments de sécurité (repérés avec le symbole ⚠) par des composants non homologués selon la Norme CEI 65 entraine la non-conformité de l'appareil.
Dans ce cas, la responsabilité du fabricant n'est plus engagée.

Achtung: Sicherheitsteile dürfen nur durch Originalteile ersetzt werden, sonst erlischt die Haftung des Herstellers.

La sostituzione degli elementi di sicurezza (marchi con il segno ⚠) con componenenti non omologati secondo la norma CEI 65 comporta la non conformitá dell'apparecchio.
In tal caso é " esclusa la responsabilitá" el costruttore.

La subtitución de elementos de seguridad (marcados con el simbolo ⚠) por componentes no homologados segun la norma CEI 65, provoca la no conformidad del aparato.
En ese caso, el fabricante cesa de ser responsable.

LIST OF PRE-PROGRAMMED CHANNELS - LISTE DES CANAUX PREPROGRAMMES - LISTE DER VORPROGRAMMIERTEN KANÆLE -LISTA DEI CANALI PRE-PROGRAMMATI - LISTA DE CANALES PRE-PROGRAMADOS

TSR 710 VT

Nr Nr zewn.	Name Nazwa	Freq. (GHz) Częstotliw. (GHz)	Pol Polar	De-emph Deemfaza	Audio Mode Sygnał odbiór. dźwięk.	Audio Freq. Częstotliw. dźwięk.	Radio Radio	Satellite Satelita	Ext.Dec. Dek
51	DOCUMA	11.686	V		STEREO 1	7.02/7.20	No	Astra	Auto
52	MINMAX	11.009	V		STEREO 1	7.02/7.20	No	Astra	Auto
53	CINECL	11.068	V		STEREO 1	7.02/7.20	No	Astra	Auto
54	S3	11.186	V		STEREO 1	7.02/7.20	No	Astra	Auto
55	SKYRAD	11.318	V		STEREO 2	7.38/7.56	Yes	Astra	Auto
56	R 538	11.318	V		STEREO 3	7.74/7.92	Yes	Astra	Auto
57	V 1215	11.377	V		STEREO 2	7.38/7.56	Yes	Astra	Auto
58	S GOLD	11.377	V		MONO 7	7.92	Yes	Astra	Auto
59	N-JOY	11.464	H		STEREO 2	7.38/7.56	Yes	Astra	Auto
60	ASDAFM	11.436	V		MONO 7	7.92	Yes	Astra	Auto
61	SUNRIS	11.479	V		MONO 4	7.38	Yes	Astra	Auto
62	HOL FM	11.479	V		MONO 5	7.56	Yes	Astra	Auto
63	R ASIA	11.597	V		MONO 4	7.38	Yes	Astra	Auto
64	R SWED	11.597	V		MONO 6	7.74	Yes	Astra	Auto
65	BBC WS	11.553	H		MONO 4	7.38	Yes	Astra	Auto
66	BBC R1	10.979	V		STEREO 2	7.38/7.56	Yes	Astra	Auto
67	BBC R2	11.553	H		MONO 6	7.74	Yes	Astra	Auto
68	BBC R3	10.979	V		STEREO 3	7.74/7.92	Yes	Astra	Auto
69	BBC R4	11.553	H		MONO 5	7.56	Yes	Astra	Auto
70	BBC R5	11.553	H		MONO 7	7.92	Yes	Astra	Auto
71	RMF FM	11.421	H		STEREO 3	7.74/7.92	Yes	Astra	Auto
72	SWF 3	11.494	H		STEREO 2	7.38/7.56	Yes	Astra	Auto
73	R SPNK	11.112	H		STEREO 2	7.38/7.56	Yes	Astra	Auto
74	NDR 2	11.582	H		STEREO 2	7.38/7.56	Yes	Astra	Auto
75	NDR4FM	11.582	H		MONO 6	7.74	Yes	Astra	Auto
76	NDR4MW	11.582	H		MONO 7	7.92	Yes	Astra	Auto
77	D WEL1	11.229	V		STEREO 2	7.38/7.56	Yes	Astra	Auto
78	D WEL2	11.229	V		MONO 6	7.74	Yes	Astra	Auto
79	D WEL3	11.229	V		MONO 7	7.92	Yes	Astra	Auto
80	DFUNKC	11.347	V		STEREO 2	7.38/7.56	Yes	Astra	Auto
81	DRADIO	11.347	V		STEREO 3	7.74/7.92	Yes	Astra	Auto
82	STARSA	11.406	V		STEREO 2	7.38/7.56	Yes	Astra	Auto
83	R ROPA	11.406	V		STEREO 3	7.74/7.92	Yes	Astra	Auto
84	SRI	11.332	H		MONO 4	7.38	Yes	Astra	Auto
85	R EVIV	11.332	H		STEREO 3	7.74/7.92	Yes	Astra	Auto
86	RTLRAD	11.391	H		STEREO 2	7.38/7.56	Yes	Astra	Auto
87	HAPPYR	11.391	H		STEREO 3	7.74/7.92	Yes	Astra	Auto
88	40PRIN	11.656	V		MONO 4	7.38	Yes	Astra	Auto
89	DIAL	11.656	V		MONO 5	7.56	Yes	Astra	Auto
90	SER	11.656	V		MONO 6	7.74	Yes	Astra	Auto
91	RTEDUB	11.538	V		MONO 5	7.56	Yes	Astra	Auto
92	WRN	11.538	V		MONO 4	7.38	Yes	Astra	Auto
93	LIMERK	11.538	V		MONO 7	7.92	Yes	Astra	Auto
94	CMR	11.509	V		MONO 4	7.38	Yes	Astra	Auto
95	UCB	11.509	V		MONO 5	7.56	Yes	Astra	Auto
96	WDR2	11.053	H		STEREO 2	7.38/7.56	Yes	Astra	Auto
97	R VLAN	10.921	H		MONO 4	7.38	Yes	Astra	Auto
98	CNNRAD	11.627	V		MONO 7	7.92	Yes	Astra	Auto
99									
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TSR 710 VT

Nr Nr zewn.	Name Nazwa	Freq. (GHz) Częstotliw. (GHz)	Pol Polar	De-emph Deemfaza	Audio Mode Sygnał odbiór. dźwięk.	Audio Freq. Częstotliw. dźwięk.	Radio Radio	Satellite Satelita	Ext.Dec. Dek
1	FILMNT	10.921	H		STEREO 1	7.02/7.20	No	Astra	Auto
2	DISCOV	11.082	H		STEREO 1	7.02/7.20	No	Astra	Off
3	CMT	11.568	V		STEREO 1	7.02/7.20	No	Astra	Off
4	MTV	11.421	H		STEREO 1	7.02/7.20	No	Astra	Auto
5	ADULT	11.097	V		STEREO 1	7.02/7.20	No	Astra	Off
6	QVC	11.038	V		STEREO 1	7.02/7.20	No	Astra	Off
7	TCC	10.994	H		STEREO 1	7.02/7.20	No	Astra	Off
8	CNN	11.627	V		STEREO 1	7.02/7.20	No	Astra	Auto
9	TNTOON	11.023	H		STEREO 1	7.02/7.20	No	Astra	Auto
10	EUROSP	11.259	V		MONO 2	7.02	No	Astra	Auto
11	SNEWS	11.377	V		STEREO 1	7.02/7.20	No	Astra	Auto
12	RTL	11.229	V		MONO 2	7.02	No	Astra	Auto
13	RTL-2	11.214	H		STEREO 1	7.02/7.20	No	Astra	Auto
14	SAT 1	11.288	V		STEREO 1	7.02/7.20	No	Astra	Auto
15	DSF	11.523	H		STEREO 1	7.02/7.20	No	Astra	Auto
16	N-TV	11.641	H		STEREO 1	7.02/7.20	No	Astra	Auto
17	VOX	11.273	H		STEREO 1	7.02/7.20	No	Astra	Auto
18	PRO7	11.406	V		STEREO 1	7.02/7.20	No	Astra	Auto
19	ARD	11.494	H		STEREO 1	7.02/7.20	No	Astra	Auto
20	ZDF	10.964	H		STEREO 1	7.02/7.20	No	Astra	Auto
21	WDR	11.053	H		STEREO 1	7.02/7.20	No	Astra	Auto
22	BAYRN3	11.141	H		STEREO 1	7.02/7.20	No	Astra	Auto
23	N3	11.582	H		STEREO 1	7.02/7.20	No	Astra	Auto
24	3 SAT	11.347	V		STEREO 1	7.02/7.20	No	Astra	Auto
25	MDR	11.112	H		STEREO 1	7.02/7.20	No	Astra	Auto
26	GALAVI	11.127	V		STEREO 1	7.02/7.20	No	Astra	Auto
27	CINEMA	11.656	V		STEREO 1	7.02/7.20	No	Astra	Auto
28	RTL-4	11.391	H		STEREO 1	7.02/7.20	No	Astra	Auto
29	RTL-5	10.936	V		STEREO 1	7.02/7.20	No	Astra	Auto
30	SKYONE	11.318	V		STEREO 1	7.02/7.20	No	Astra	Auto
31	SMOVIE	11.436	V		STEREO 1	7.02/7.20	No	Astra	Auto
32	MOVIEC	11.479	V		STEREO 1	7.02/7.20	No	Astra	Auto
33	GMOVIE	11.597	V		STEREO 1	7.02/7.20	No	Astra	Auto
34	SSPORT	11.509	V		STEREO 1	7.02/7.20	No	Astra	Auto
35	NICK	11.156	V		STEREO 1	7.02/7.20	No	Astra	Auto
36	BRAVO	11.097	V		STEREO 1	7.02/7.20	No	Astra	Auto
37	TLC	11.082	H		STEREO 1	7.02/7.20	No	Astra	Auto
38	FAMILY	10.994	H		STEREO 1	7.02/7.20	No	Astra	Auto
39	UKGOLD	11.553	H		STEREO 1	7.02/7.20	No	Astra	Auto
40	LIVING	10.979	V		STEREO 1	7.02/7.20	No	Astra	Auto
41	VH1	11.538	V		STEREO 1	7.02/7.20	No	Astra	Auto
42	SPORT2	11.171	H		STEREO 1	7.02/7.20	No	Astra	Auto
43	JSTV	11.568	V		STEREO 1	7.02/7.20	No	Astra	Auto
44	PREMIR	11.464	H		STEREO 1	7.02/7.20	No	Astra	Auto
45	TELECL	11.332	H		MONO 2	7.02	No	Astra	Auto
46	FILNT+	11.362	H		DIGITAL	-	No	Astra	Auto
47	TV1000	11.303	H		DIGITAL	-	No	Astra	Auto
48	TV3 D	11.612	H		DIGITAL	-	No	Astra	Auto
49	TV3 S	11.244	H		DIGITAL	-	No	Astra	Auto

Nr Nr	Name Nazwa	Freq.(GHz) Czîstotliwo Ê	Pol Polar	De-emph Deemfaza	Audio Mode Sposûb odbioru dºwiíku	Audio Freq. Czîstotliw. dºwiíku	Radio Radio	Satellite Satelita	Ext.Dec. Dek
zewn.									
101	1DCH49	10.714	H		STEREO 1	7.02/7.20	No	Astra	Auto
102	1DCH50	10.729	V		STEREO 1	7.02/7.20	No	Astra	Auto
103	1DCH51	10.744	H		STEREO 1	7.02/7.20	No	Astra	Auto
104	1DCH52	10.759	V		STEREO 1	7.02/7.20	No	Astra	Auto
105	1DCH53	10.773	H		STEREO 1	7.02/7.20	No	Astra	Auto
106	1DCH54	10.788	V		STEREO 1	7.02/7.20	No	Astra	Auto
107	1DCH55	10.803	H		STEREO 1	7.02/7.20	No	Astra	Auto
108	1DCH56	10.818	V		STEREO 1	7.02/7.20	No	Astra	Auto
109	1DCH57	10.832	H		STEREO 1	7.02/7.20	No	Astra	Auto
100	1DCH58	10.847	V		STEREO 1	7.02/7.20	No	Astra	Auto
111	1DCH59	10.862	H		STEREO 1	7.02/7.20	No	Astra	Auto
112	1DCH60	10.877	V		STEREO 1	7.02/7.20	No	Astra	Auto
113	1DCH61	10.891	H		STEREO 1	7.02/7.20	No	Astra	Auto
114	1DCH62	10.906	V		STEREO 1	7.02/7.20	No	Astra	Auto
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SETTING UP YOUR SATELLITE RECEIVER

TUNING YOUR TV AND VCR TO THE SATELLITE RECEIVER

SWITCHING THE RECEIVER ON

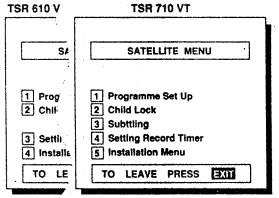
To switch the receiver on press one of the keys PR-, PR+ or 0...9 on the remote control keypad.

TUNING THE TV

When you have connected the satellite receiver to the television set and switched the receiver on, you must allocate the satellite receiver to a programme number on your TV set just as you would a TV channel.

The satellite receiver uses CHANNEL 38 to transmit picture and sound information via the RF connecting lead.

1/ Switch on your television set. To help you find channel 38 you can use the satellite main menu as a test picture.
2/ Press the MENU key on the satellite receiver remote control unit, to call up the menu page .
3/ Locate **channel 38** on your television set. If necessary, refer to the chapter covering tuning and storing programmes in the instruction manual of your television set.
When the television set locates the satellite receiver channel 38, the main "SATELLITE MENU", is displayed.
4/ Select a programme number for the television set, and store according to the TV instructions.



From now on, whenever you want to watch programmes received by the satellite receiver you have only to switch the television set to the programme number which you have just assigned to the receiver.

TUNING THE VCR

If you have connected your satellite receiver to a video cassette recorder (VCR) it will then be necessary to tune the VCR into the receiver. If this operation is not performed, the VCR cannot be used to record satellite programmes.

1/ Switch on your television set and video cassette recorder.
2/ Press the MENU key on the satellite receiver remote control unit, to call up the menu page.
3/ Select the video programme number on your TV.
4/ Locate channel 38 on your video recorder. If necessary refer to the chapter covering tuning and storing programmes in the instruction manual of your video recorder. When the video recorder locates the satellite receiver channel, the main menu is displayed.
5/ Select a spare programme number on the VCR, (you are advised to use the same number as the one chosen for the TV) and store according to the VCR instructions.

IMPORTANT

Under normal conditions, do not adjust the channel adjustment screw (marked CH.ADJ) on the rear panel of the satellite receiver. This control is factory set to channel 38. If the picture on channel 38 is poor or has interference because it is already assigned to something else, then you can reset the channel transmitted by the satellite receiver to between channel 30 - 39. Make the adjustment by turning the channel adjustment screw with a small screwdriver.
Remember that it will be necessary to retune both your TV and video recorder to the new channel setting.

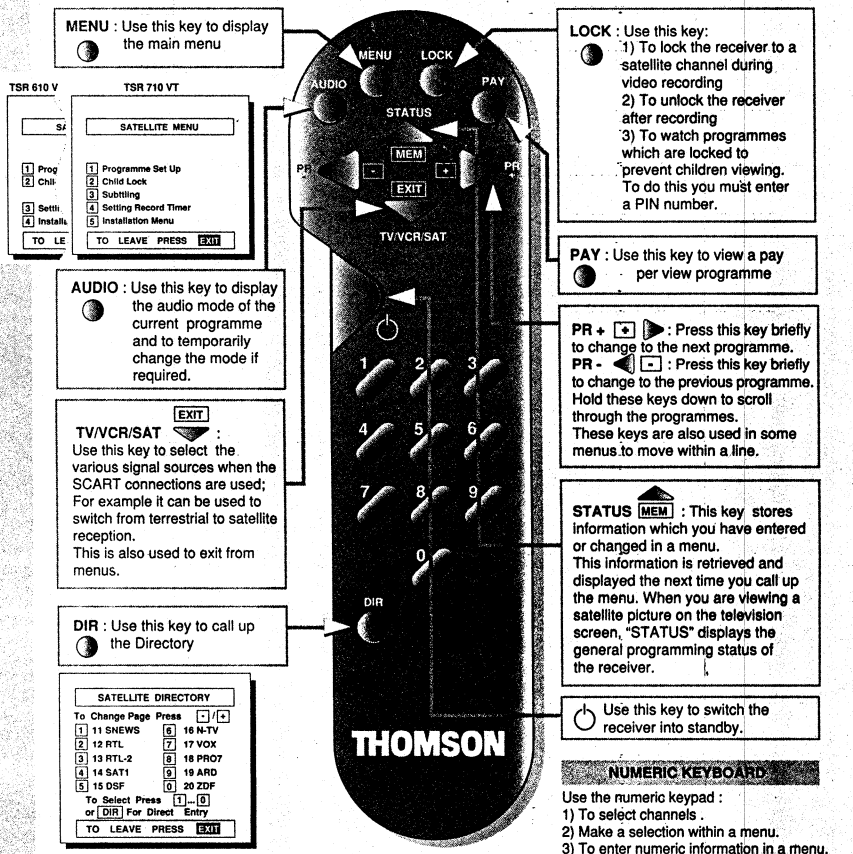
CONTROLS

You can operate your receiver fully using the remote control and a number of menus which are displayed on the television screen.
You can also use the keypad on the front panel of the receiver for limited functions, for example to switch the unit to standby mode or to move from one programme to the next.

REMOTE CONTROL

One of two different remote controls will have been supplied with your receiver. Please refer to the correct diagram.

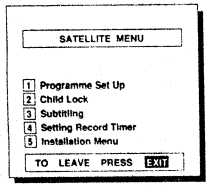
MAIN FUNCTIONS


MENU : Use this key to display the main menu
AUDIO : Use this key to display the audio mode of the current programme and to temporarily change the mode if required.
EXIT
TV/VCR/SAT : Use this key to select the various signal sources when the SCART connections are used; For example it can be used to switch from terrestrial to satellite reception. This is also used to exit from menus.
DIR : Use this key to call up the Directory
SATELLITE DIRECTORY
To Change Page Press - / +
1 11 SNEWS
2 12 RTL
3 13 RTL-2
4 14 SAT1
5 15 DSF
6 16 N-TV
7 17 VOX
8 18 PRO7
9 19 ARD
0 20 ZDF
To Select Press 1 .. 0 or DIR For Direct Entry
TO LEAVE PRESS EXIT
MENU
LOCK
AUDIO
PAY
STATUS
MEM
PR
EXIT
TV/VCR/SAT
DIR
THOMSON
LOCK : Use this key:
1) To lock the receiver to a satellite channel during video recording
2) To unlock the receiver after recording
3) To watch programmes which are locked to prevent children viewing. To do this you must enter a PIN number.
PAY : Use this key to view a pay per view programme
PR + : Press this key briefly to change to the next programme.
PR - : Press this key briefly to change to the previous programme.
Hold these keys down to scroll through the programmes.
These keys are also used in some menus to move within a line.
STATUS MEM : This key stores information which you have entered or changed in a menu.
This information is retrieved and displayed the next time you call up the menu. When you are viewing a satellite picture on the television screen, "STATUS" displays the general programming status of the receiver.
Use this key to switch the receiver into standby.
NUMERIC KEYBOARD
Use the numeric keypad :
1) To select channels .
2) Make a selection within a menu.
3) To enter numeric information in a menu.

CONTROLS

MAIN FUNCTIONS

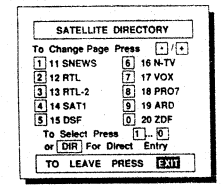
MENU : Use this key to display the main menu

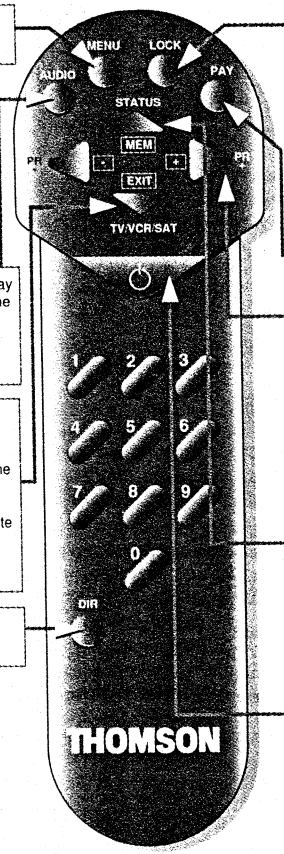


AUDIO : Use this key to display the audio mode of the current programme and to temporarily change the mode if required.

TV/VCR/SAT : EXIT
Use this key to select the various signal sources when the SCART connections are used; For example it can be used to switch from terrestrial to satellite reception.
This is also used to exit from menus.

DIR: Use this key to call up the Directory





LOCK : Use this key:
1) To lock the receiver to a satellite channel during video recording
2) To unlock the receiver after recording
3) To watch programmes which are locked to prevent children viewing. To do this you must enter a PIN number.

PAY : Use this key to view a pay per view programme

PR + : Press this key briefly to change to the next programme.
PR - : Press this key briefly to change to the previous programme.
Hold these keys down to scroll through the programmes.
These keys are also used in some menus to move within a line.

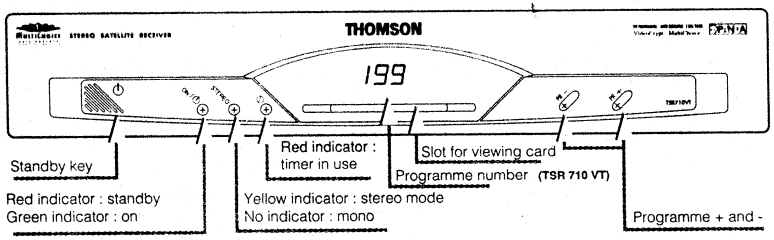
STATU : MEM This key stores information which you have entered or changed in a menu.
This information is retrieved and displayed the next time you call up the menu. When you are viewing a satellite picture on the television screen, "STATUS" displays the general programming status of the receiver.

Use this key to switch the receiver into standby.

NUMERIC KEYBOARD

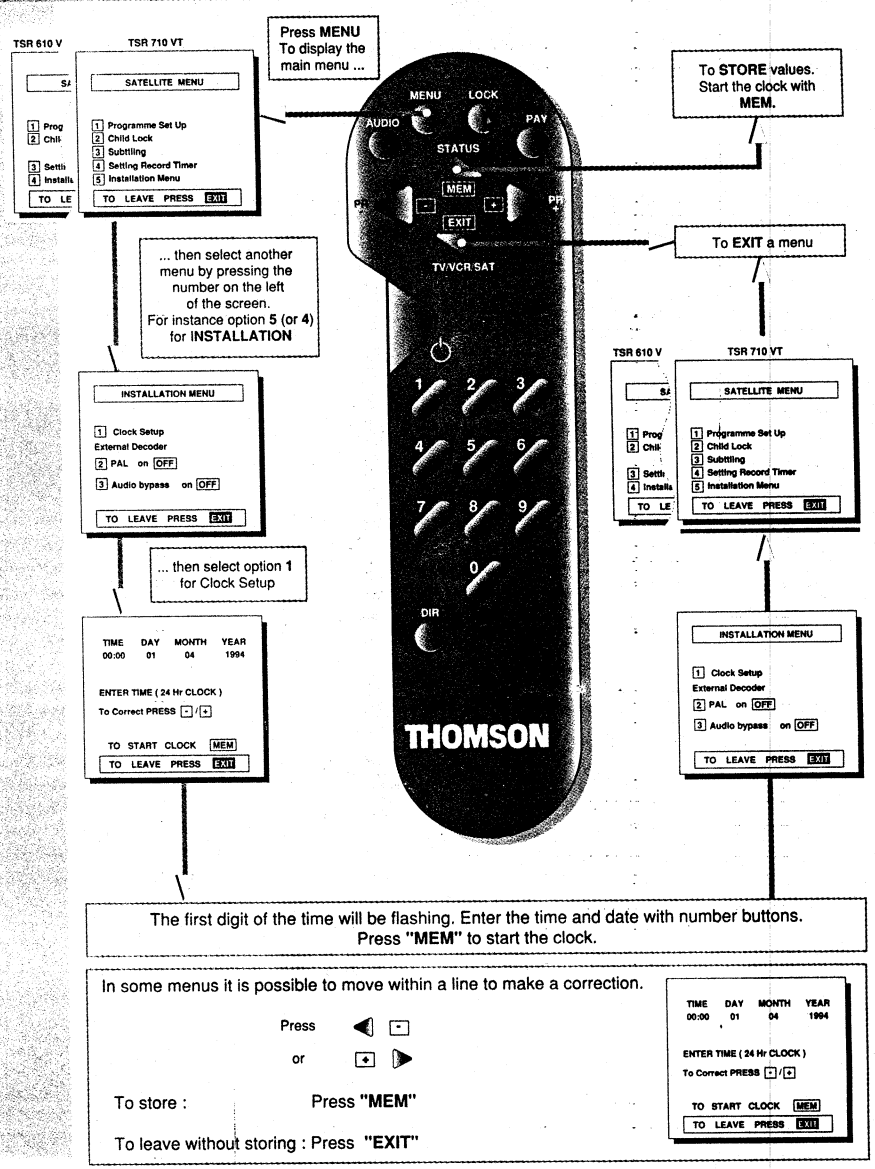
Use the numeric keypad :
1) To select channels .
2) Make a selection within a menu.
3) To enter numeric information in a menu.

FRONT PANEL



MENU SYSTEM OVERVIEW

USING THE MENUS - EXAMPLE "SETTING THE CLOCK"



The first digit of the time will be flashing. Enter the time and date with number buttons.
Press **"MEM"** to start the clock.

In some menus it is possible to move within a line to make a correction.

Press ◀ ▫
or ▫ ▶

To store : Press **"MEM"**

To leave without storing : Press **"EXIT"**

EVERYDAY USE

SWITCHING ON AND STANDBY MODE

PR -
PR +

SWITCHING ON

Press either the "**PR-**" or "**PR+**" key on the remote control, or front panel :
The receiver is switched on tuned to the last programme selected.
or,
Press one of the keys **1-9** or **0 /10** on the remote control :
The receiver is switched on tuned to the selected programme.
The ON / ⏻ indicator light is green when the receiver is ON.

SWITCHING TO STANDBY

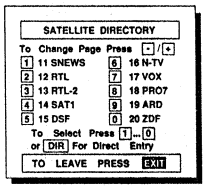
Press the standby key :
The receiver is switched into standby mode and the indicator light becomes red.

SATELLITE DIRECTORY

This contains 20 pages and allows you to view the programme set up quickly and select your desired programme easily.

DIR

Press the "**DIR**" key :
The directory screen is displayed.
The first page displayed contains programmes 11 to 20.



- / +

Keep pressing - or +
until you reach the required page.
Press the key **1....0** which corresponds to the programme you wish to watch.

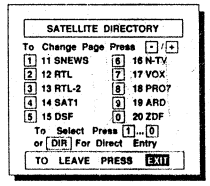
DIRECT PROGRAMME NUMBER ACCESS

You can access the number of the programme you want to watch directly without scrolling through this 10 programme display by pressing "DIR" again when in the "SATELLITE DIRECTORY" menu.

Example : To view programme 92.

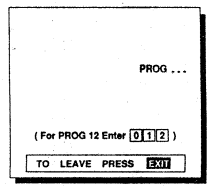
DIR

Press the "**DIR**" key :
The directory screen is displayed.



DIR

Press "DIR" again :
The page illustrated opposite is displayed.



Enter the number of the programme you wish to watch.
For example, key in 092 to watch programme number 92.

EVERYDAY USE

BROWSING THROUGH THE PROGRAMMES

PR -
PR +

Press the "**PR+**" key to change to the next programme or the "**PR-**" key to change to the previous programmes.
To scroll through the programmes hold down the "**PR +**" or "**PR -**" key.

VIEWING SCRAMBLED PROGRAMMES

Your satellite receiver is equipped with an integral decoder which will descramble video signals that have been scrambled using the VideoCrypt - MultiChoice system.
You will need a valid viewing card for which you will have to pay a subscription.
For example, for details of the MultiChoice programmes, please contact your supplier or :

MultiChoice Central Europe
Customer Service
Planetenweg 8
NL - 2132 HP Hoofddorp
TEL.: (+) 31 2503 86622
FAX.: (+) 31 2503 86644

When you have received your viewing card simply insert it in the slot in the front panel (see page 9) with its arrow uppermost and pointing towards the receiver.
This will enable you to view those programmes to which you have subscribed.
A number of messages may be displayed in connection with the decoder and your viewing card.

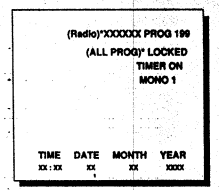
IMPORTANT
Your satellite receiver is set up for use with the recommended dish assembly and is preprogrammed as shown on the separate sheet provided.
If, when you are browsing through the programmes for the first time, the programmes viewed do not appear to correspond to the channel listing, and you are not using the recommended dish assembly, it is possible that the LNB frequency requires changing. Please refer to the chapter "Changing the local oscillator frequency" on page 26 .

PROGRAMME STATUS

STATUS

Press the "**STATUS**" key :
This displays information concerning the satellite programme you are watching.

The following information is displayed briefly :



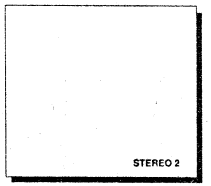
XXXXXX	: Channel name
199	: Programme number
*(RADIO)	: When Radio mode is set
LOCKED	: When the programme is locked in the CHILD LOCK MENU
*(ALL PROG)	: When all programmes are locked.
TIMER ON	: When a timer is set.
MONO 1	: Audio reception mode
TIME / DATE	: Flashing if not set

EVERYDAY USE

AUDIO SELECTION

AUDIO

Press the "**AUDIO**" key :
This displays information about the sound (audio mode) accompanying the current programme.



You can sometimes select different AUDIO modes to receive TV commentaries in another language, or radio broadcasts transmitted on some satellite channels.
For this :

AUDIO

Press the "**AUDIO**" key repeatedly :
This moves through the various "AUDIO" modes :
The new audio mode only remains effective for as long as you continue to receive the selected station.

The display disappears after a few seconds.

PAY PER VIEW PROGRAMMES

It is possible that for certain events a pay per view system will operate for which tokens can be purchased. In order to view the programme it will be necessary to authorize the transaction and debit the relevant tokens from the viewing card.
The message "PUSH BUTTON TO VIEW" will be displayed.

PAY

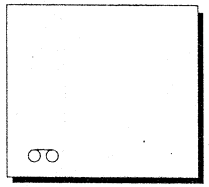
Press the "**PAY**" key for at least two seconds :

The letter "p" is displayed briefly at the bottom left of the screen.

RECORD LOCK

LOCK

Press the "**LOCK**" key :
- Use this key to put the receiver into RECORD LOCK mode.
This disables the keys on the front panel and the remote control (with the exception of the TV/VCR/SAT key) to prevent the programme being accidently changed , for example, when making a video recording. The cassette symbol is displayed briefly at the bottom left of the screen, when the receiver is put into RECORD LOCK mode and subsequently when a disabled key is pressed.



LOCK

When the satellite receiver is in RECORD LOCK mode, ***Press*** the "**LOCK**" key on the remote control to unlock the receiver.

NOTES

• **While a satellite programme is being recorded** using the receiver's timer, the receiver is automatically put into RECORD LOCK mode.

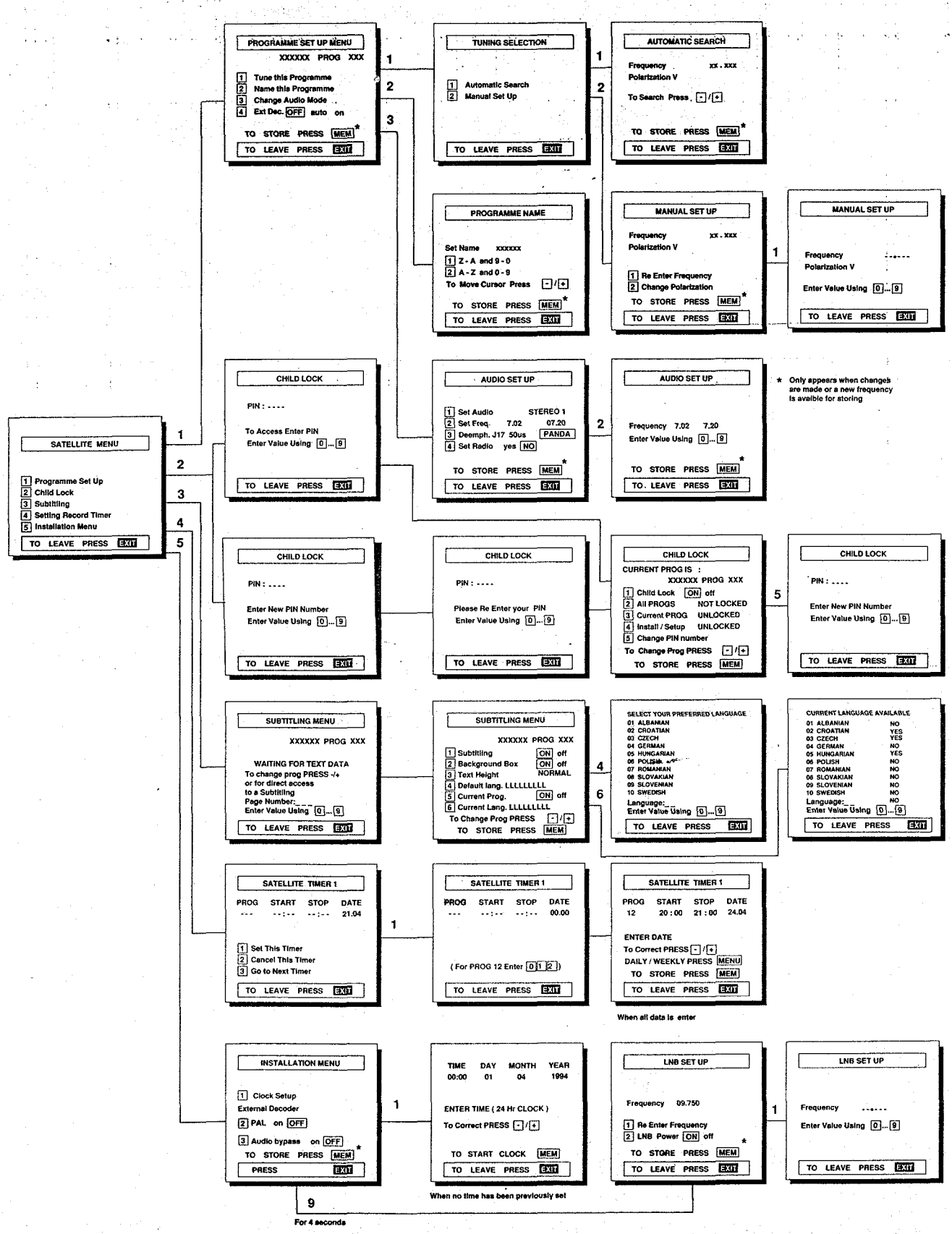
LOCK

• **CHILD LOCK**
To view a channel which has been protected using the "CHILD LOCK" menu, ***Press*** the "**LOCK**" key and enter your personal identification number (PIN).
(See the CHILD LOCK menu in the "USING THE MENUS" chapter).

STL 6
First issue 05 / 1995

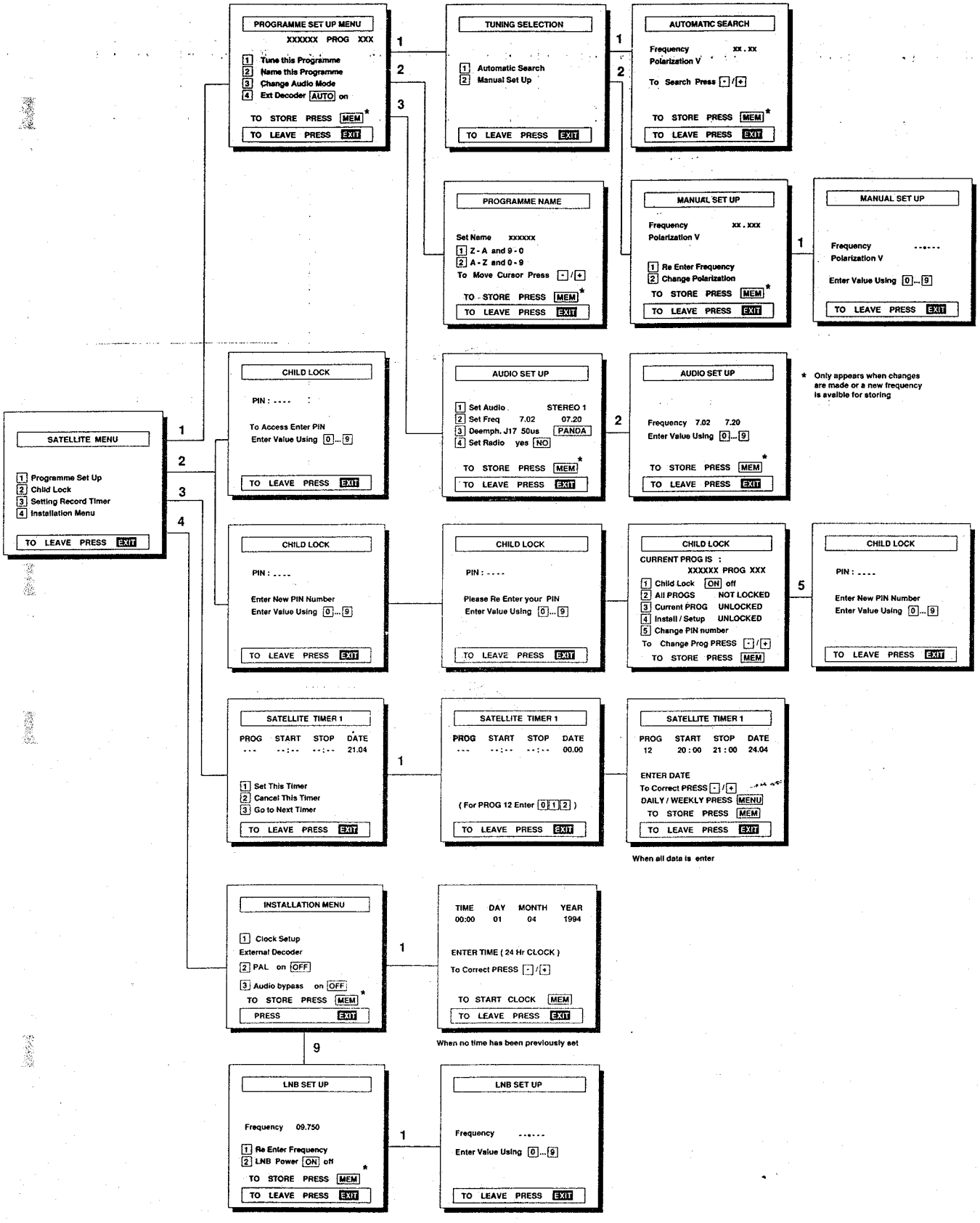
MENU STRUCTURE TSR 710 VT

Several functions of your satellite receiver can be accessed and programmed using menus displayed on the screen. These menus can be accessed via the main "SATELLITE MENU".



MENU STRUCTURE TSR 610 V

Several functions of your satellite receiver can be accessed and programmed using menus displayed on the screen. These menus can be accessed via the main "SATELLITE MENU".


SATELLITE MENU
1 Programme Set Up
2 Child Lock
3 Setting Record Timer
4 Installation Menu
TO LEAVE PRESS EXIT
PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Decoder AUTO on
TO STORE PRESS MEM *
TO LEAVE PRESS EXIT
TUNING SELECTION
1 Automatic Search
2 Manual Set Up
TO LEAVE PRESS EXIT
AUTOMATIC SEARCH
Frequency xx . xx
Polarization V
To Search Press -/+
TO STORE PRESS MEM *
TO LEAVE PRESS EXIT
PROGRAMME NAME
Set Name xxxxxx
1 Z - A and 9 - 0
2 A - Z and 0 - 9
To Move Cursor Press -/+
TO STORE PRESS MEM *
TO LEAVE PRESS EXIT
MANUAL SET UP
Frequency xx . xxx
Polarization V
1 Re Enter Frequency
2 Change Polarization
TO STORE PRESS MEM *
TO LEAVE PRESS EXIT
MANUAL SET UP
Frequency ------
Polarization V
Enter Value Using 0...9
TO LEAVE PRESS EXIT
CHILD LOCK
PIN : ----
To Access Enter PIN
Enter Value Using 0...9
TO LEAVE PRESS EXIT
AUDIO SET UP
1 Set Audio STEREO 1
2 Set Freq 7.02 07.20
3 Deemph. J17 50us PANDA
4 Set Radio yes NO
TO STORE PRESS MEM *
TO LEAVE PRESS EXIT
AUDIO SET UP
Frequency 7.02 7.20
Enter Value Using 0...9
TO STORE PRESS MEM *
TO LEAVE PRESS EXIT
* Only appears when changes are made or a new frequency is avalble for storing
CHILD LOCK
PIN : ----
Enter New PIN Number
Enter Value Using 0...9
TO LEAVE PRESS EXIT
CHILD LOCK
PIN : ----
Please Re Enter your PIN
Enter Value Using 0...9
TO LEAVE PRESS EXIT
CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM
CHILD LOCK
PIN : ----
Enter New PIN Number
Enter Value Using 0...9
TO LEAVE PRESS EXIT
SATELLITE TIMER 1
PROG START STOP DATE
--- --:-- --:-- 21.04
1 Set This Timer
2 Cancel This Timer
3 Go to Next Timer
TO LEAVE PRESS EXIT
SATELLITE TIMER 1
PROG START STOP DATE
--- --:-- --:-- 00.00
(For PROG 12 Enter 0 1 2)
TO LEAVE PRESS EXIT
SATELLITE TIMER 1
PROG START STOP DATE
12 20 : 00 21 : 00 24.04
ENTER DATE
To Correct PRESS -/+
DAILY / WEEKLY PRESS MENU
TO STORE PRESS MEM
TO LEAVE PRESS EXIT
When all data is enter
INSTALLATION MENU
1 Clock Setup
External Decoder
2 PAL on OFF
3 Audio bypass on OFF
TO STORE PRESS MEM *
PRESS EXIT
TIME DAY MONTH YEAR
00:00 01 04 1994
ENTER TIME (24 Hr CLOCK)
To Correct PRESS -/+
TO START CLOCK MEM
TO LEAVE PRESS EXIT
When no time has been previously set
LNB SET UP
Frequency 09.750
1 Re Enter Frequency
2 LNB Power ON off
TO STORE PRESS MEM *
TO LEAVE PRESS EXIT
LNB SET UP
Frequency ------
Enter Value Using 0...9
TO LEAVE PRESS EXIT

USING THE PROGRAMMING MENUS

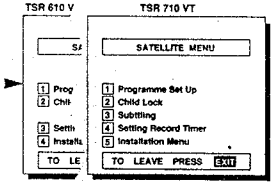
PROGRAMME SET UP MENU

Your satellite receiver is pre-programmed as shown on the separate sheet provided.

You can use the "PROGRAMME SET UP" menu to programme new channels or, if necessary, to modify existing ones.

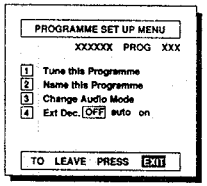
• First, Select the programme number you wish to tune :

Press the **"MENU"** key :
The main "SATELLITE MENU" is displayed:



Press key **"1"**
to select the line "Programme Set up".

The following menu is displayed :

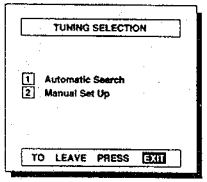

PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Dec. OFF auto on
TO LEAVE PRESS EXIT

TUNING THE PROGRAMME

Make sure that the Ext. Decoder option is set to **AUTO**. If it is not :

Press key **"4"** to set Ext Decoder to **AUTO**.

Press key **"1"** to
select the line "Tune this Programme"
The "TUNING SELECTION" menu is displayed.



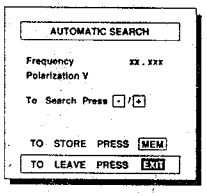
Two options are available :

1/ Automatic Search
2/ Manual Set up

AUTOMATIC CHANNEL SEARCH

This menu allows you to programme a channel whose frequency is unknown.

Press key **"1"** to select the line "Automatic Search".
The corresponding menu is displayed.



Press the - or + key to start the search. As soon as a channel is received a picture is displayed on the screen. Please wait while the fine tuning is carried out for the best picture quality.

If the picture corresponds to the required channel :

Press the **"MEM"** key on the remote control to store the channel.
Once the channel has been stored, the "PROGRAMME SET UP" menu is displayed again.

If the picture does not correspond to the required channel :
Use the - or + key to continue the search.

USING THE PROGRAMMING MENUS

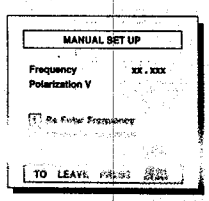
NOTES
When all the channels corresponding to one polarisation mode have been searched (for example, horizontal polarisation H), the system restarts the search in a different polarisation (vertical V, for example).

When in standby your receiver is designed to receive data over the air from MultiChoice and is automatically tuned to FILMNT on programme 1. You are therefore advised to leave this channel tuned in this programme location.

MANUAL CHANNEL SELECTION

This menu allows you to programme a channel of known frequency.

Press key **"2"** to select the line "Manual Set Up".
The corresponding menu is displayed.



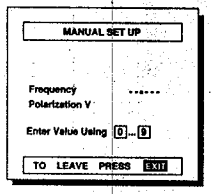
The frequency displayed is the current frequency in the programme.
Enter the polarisation and frequency of the required channel.
Consult a television magazine for details of the various satellite channels available.

To change the polarisation :

Press key **"2"** to select the line "Change Polarization".
Depending on its current setting, the polarisation will change from H to V or V to H.

To enter the frequency :

Press key **"1"** to select the line "Re Enter Frequency"
The menu opposite is displayed :



- Use the numeric keys on the remote control to enter the frequency of the desired channel.

NOTES
• If an invalid frequency is entered it will not be accepted.
• If the frequency has been entered correctly the previous "MANUAL SET UP" menu is displayed superimposed on the picture.

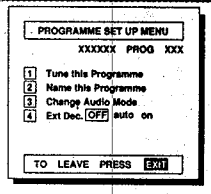
Press the **"MEM"** key to store the channel.

NAMING THE PROGRAMME

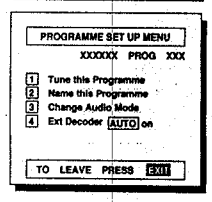
You can use up to six characters to name the new programme.

From the "PROGRAMME SET UP MENU"

TSR 710 VT

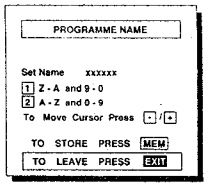

PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Dec. OFF auto on
TO LEAVE PRESS EXIT

TSR 610 V


PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Decoder AUTO on
TO LEAVE PRESS EXIT

USING THE PROGRAMMING MENUS

Press key "**2**" to select the line "Name this Programme"
The "PROGRAMME NAME" menu is displayed
The first character to be entered flashes.



Press key "**1**" repeatedly :
Characters are displayed in descending order.

Press key "**2**" repeatedly :
Characters are displayed in ascending order.

The blank can be found between the "." and the "A"
- Use the - and + keys to move within the line and enter the next character.

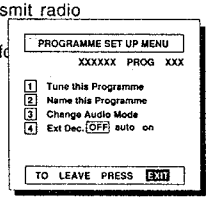
Press the " **MEM** " key to store the new name.

AUDIO MODE

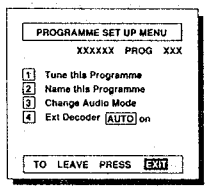
- Use this menu to select the Audio mode for each channel. Some channels provide commentaries in different languages, whereas others transmit radio broadcasts.
Your satellite television magazine will provide you with the necessary info

From the "PROGRAMME SET UP MENU"

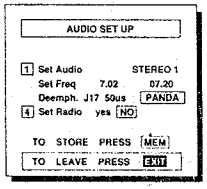
TSR 710 VT


PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Dec. OFF auto on
TO LEAVE PRESS EXIT

TSR 610 V


PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Decoder AUTO on
TO LEAVE PRESS EXIT

Press key "**3**" to select the line "Change Audio mode".
The "AUDIO SET UP" menu is displayed.


AUDIO SET UP
1 Set Audio STEREO 1
Set Freq 7.02 07.20
Deemph. J17 50us PANDA
4 Set Radio yes NO
TO STORE PRESS MEM
TO LEAVE PRESS EXIT

SELECTING THE AUDIO MODE

Press key "**1**" repeatedly :

All the available Audio modes are scrolled through the menu display, allowing you to select the required mode :

- STEREO 1 to STEREO 4
- STEREO free mode
- MONO free mode
- MONO 1 to MONO 9

If no other changes in the AUDIO SET UP menu are necessary,

Press the "**MEM**" key to store.

USING THE PROGRAMMING MENUS

NOTES
Refer to the table below for the preprogrammed values for each of the modes in the FSS A/B band (satellites : Astra 1 A, B, C, D/Intelsat/Eutelsat)

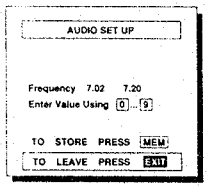
Stereo 1	7,02 and 7,20 MHz	(PANDA 1)
Stereo 2	7,38 and 7,56 MHz	(PANDA 1)
Stereo 3	7,74 and 7,92 MHz	(PANDA 1)
Stereo 4	8,10 and 8,28 MHz	(PANDA 1)
Mono 1	6,50 MHz	
Mono 2	7,02 MHz	(PANDA 1)
Mono 3	7,20 MHz	(PANDA 1)
Mono 4	7,38 MHz	(PANDA 1)
Mono 5	7,56 MHz	(PANDA 1)
Mono 6	7,74 MHz	(PANDA 1)
Mono 7	7,92 MHz	(PANDA 1)
Mono 8	8,10 MHz	(PANDA 1)
Mono 9	8,28 MHz	(PANDA 1)

The frequency corresponding to each mode displayed in line 1 of the "AUDIO SET-UP" menu is displayed in line 2.
In the Mono free or Stereo free mode, you can change the preset AUDIO mode.
The gap between the left and right stereo channels is always identical (180 kHz).

SETTING THE AUDIO FREQUENCIES

Press key "**1**" repeatedly :
Select the STEREO free mode or the MONO free mode.

Press key "**2**" to select the line "Set Freq."
The following menu is displayed :



- Use the number keys 0...9 to enter the new mono frequency or if stereo, the first frequency in the pair.

Press the "**MEM**" key. The previous "AUDIO SET UP" menu is displayed with the new frequency.

SETTING THE NOISE - REDUCTION SYSTEM IN MONO FREE MODE

If you have selected the MONO free mode you will be able to set the DE-EMPHASIS system.

Press key "**3**" repeatedly :
The following DE-EMPHASIS modes are selected in turn :
J17 or **50µs** or **PANDA**

If no other changes in the "AUDIO SET UP" menu are necessary, ***Press*** the "**MEM**" key to store.

SELECTING THE PLAIN SCREEN BACKGROUND FOR RADIO MODE

Press key "**4**" repeatedly :
Set Radio toggles from **yes NO** to **YES no** depending on the initial setting.

- Choose **YES** to activate the plain screen background for RADIO mode.

If no other changes in the "AUDIO SET UP" menu are necessary, ***Press*** the "**MEM**" key to store.

USING THE PROGRAMMING MENUS (TSR 710 VT)

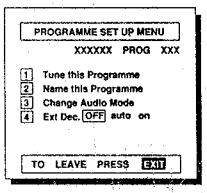
EXTERNAL DECODER

You can use an external decoder to watch scrambled transmissions broadcast using a different system, in addition to using the integrated VideoCrypt - MultiChoice decoder in your receiver.

Although your TSR710VT receiver is designed for the PAL standard, you can connect an external MAC decoder in order to watch MAC-standard programmes.

To do this, you will have to check that the external decoder settings in the Installation menu are correct, and connect your decoder to the DEC PERITEL socket

The Ext. Decoder setting in the PROGRAMME SET UP MENU is normally set to **AUTO**. In this position the external decoder will only be looped through to your TV and VCR if the decoder sends an automatic status signal.
It is possible that your external decoder does not have this facility or the connecting lead you have used is not suitable. In this case you may not be able to view the programme and may need to switch the Ext. Decoder setting to **ON**.
Some programmes have been preset to the **OFF** position. This is to enable you to view programmes which are broadcast across Europe using both VideoCrypt and VideoCrypt-MultiChoice if you have an external VideoCrypt decoder connected(eg. for JSTV).


PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Dec. OFF auto on
TO LEAVE PRESS EXIT

From the "PROGRAMME SET UP MENU" →

Press key "**4**" repeatedly :

Ext. Decoder toggles from **OFF** auto on to off **AUTO** on to off auto **ON** depending on the initial setting.

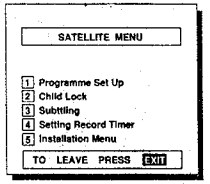
Press the "**MEM**" key to store the new setting.

IMPORTANT
If you do not have an external decoder fitted and you selected **ON** you will not be able to see a picture.

CHILD LOCK

You can use the "CHILD LOCK" menu to prevent access to programmes and / or the tuning and installation menus by allocating a personal identification number (PIN).

When you first switch on your unit, no PIN is allocated or stored.

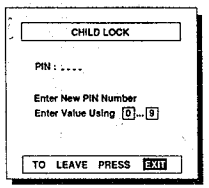


IF NO PIN HAS BEEN SET

Press the "**MENU**" key :

The main "SATELLITE MENU" is displayed : →

Press key "**2**" to select the line "Child Lock" :
The following menu is displayed : →



- Use the number keys 0...9 on the remote control unit to enter your 4-digit PIN.

USING THE PROGRAMMING MENUS (TSR 610 V)

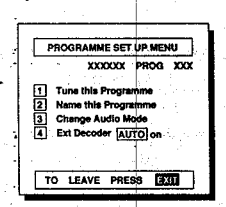
EXTERNAL DECODER

You can use an external decoder to watch scrambled transmissions broadcast using a different system, in addition to using the integrated VideoCrypt - MultiChoice decoder in your receiver.

Although your TSR610V receiver is designed for the PAL standard, you can connect an external MAC decoder in order to watch MAC-standard programmes.

To do this, you will have to check that the external decoder settings in the Installation menu are correct, and connect your decoder to the DEC PERITEL socket .

The Ext. Decoder setting in the PROGRAMME SET UP MENU is normally set to **AUTO**. In this position the external decoder will only be looped through to your TV and VCR if the decoder sends an automatic status signal.
It is possible that your external decoder does not have this facility or the connecting lead you have used is not suitable. In this case you may not be able to view the programme and may need to switch the Ext. Decoder setting to **ON**.


PROGRAMME SET UP MENU
XXXXXX PROG XXX
1 Tune this Programme
2 Name this Programme
3 Change Audio Mode
4 Ext Decoder AUTO on
TO LEAVE PRESS EXIT

From the "PROGRAMME SET UP MENU" →

Press key "**4**" repeatedly :

Ext. Decoder toggles from **AUTO on** to **auto ON** depending on the initial setting.

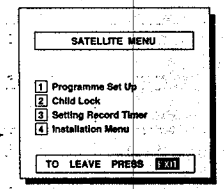
Press the "**MEM**" key to store the new setting.

IMPORTANT
If you do not have an external decoder fitted and you selected **ON** you will not be able to see a picture.

CHILD LOCK

You can use the "CHILD LOCK" menu to prevent access to programmes and / or the tuning and installation menus by allocating a personal identification number (PIN).

When you first switch on your unit, no PIN is allocated or stored.

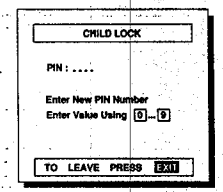


IF NO PIN HAS BEEN SET

Press the "**MENU**" key :

The main "SATELLITE MENU" is displayed : →

Press key "**2**" to select the line "Child Lock" :
The following menu is displayed : →

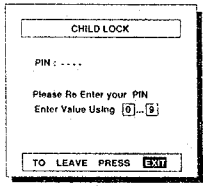


- Use the number keys 0...9 on the remote control unit to enter your 4-digit PIN.

USING THE PROGRAMMING MENUS

Each time you enter a number the character "_" is replaced by a "*".

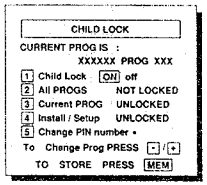
When you have entered the final number the following menu is displayed.



Re-enter your PIN.

If this number is not the same as the one you initially entered the previous menu is displayed again.

If the number is the same as the one you first entered the following menu is displayed.


CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number *
To Change Prog PRESS -/+
TO STORE PRESS MEM

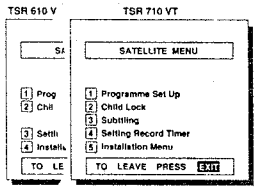
IMPORTANT

You will now use this PIN whenever you use the Child Lock facility. It should be confidential and you will need to remember it for the everyday use of your satellite receiver.

IF A PIN HAS ALREADY BEEN SET

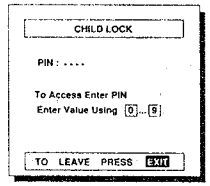
MENU

Press the **"MENU"** key :
The main "SATELLITE MENU", is displayed.



2

Press key **"2"** to select the line "Child Lock" :
The following menu is displayed :

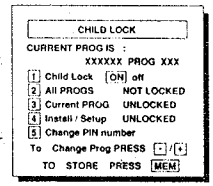


- Use the number keys 0...9 on the remote control unit to enter your PIN.

This is the number which you originally entered.
Each time you enter a number the character "_" is replaced by a "*".
If this number is not the same as the one you originally stored the following message is displayed for four seconds :

INVALID PIN is superimposed on the "SATELLITE MENU"
You will then need to reselect line 2 "Child Lock" and re-enter your PIN.

If entered correctly the menu illustrated opposite is displayed.


CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM

USING THE PROGRAMMING MENUS

LOCKING A PROGRAMME OR SET OF PROGRAMMES

PR -
PR +

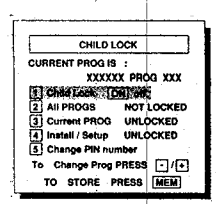
Press the **"PR +"** or **"PR-"** keys repeatedly to select the programme you want to lock.

The menu is then superimposed on the desired programme together with the name and number.

Line 1 "Child Lock" must be set to **"ON"** before you can access options 2,3 or 4.

1

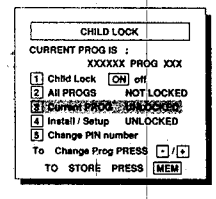
Press key "1" repeatedly :
"Child Lock" toggles from **ON** off to on **OFF** depending on the initial setting .


CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM

- Set Child Lock to **ON.**

3

Press key **"3"** repeatedly :
Current PROG toggles from **UNLOCKED** to **LOCKED** or from **LOCKED** to **UNLOCKED** depending on the initial setting.


CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM

- Set Current PROG to **LOCKED.**

If you only want to lock this programme

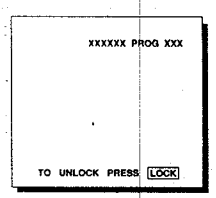
If you want to lock other programmes

Press the **"PR-"** or **"PR+"** key to select another programme.
Press key **"3"** repeatedly to confirm that Current PROG is **LOCKED.** If necessary, repeat this procedure for other programmes.

MEM

Press the **"MEM"** key

If a locked programme is then selected you will see



To watch the locked programme, refer to the section "WATCHING A LOCKED PROGRAMME"

USING THE PROGRAMMING MENUS

LOCKING ALL PROGRAMMES

Line **1 Child Lock** must be set to **"ON"** before you can access options 2, 3 or 4.

CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM

2

Press key **"2"** repeatedly :
"All PROGS" toggles from **NOT LOCKED** to **LOCKED** or from **LOCKED** to **NOT LOCKED** depending on the initial setting. ——►

Set All PROGS to **LOCKED.**

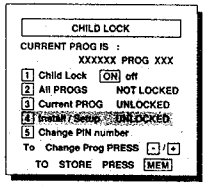
MEM

Press the **"MEM "** key :
All the programmed channels are now locked.

NOTE :
When all programmes are **NOT LOCKED** any individual programmes previously locked remain locked.
For maximum security when locking programmes remember to lock the "Installation" and "Programme Set up" menus as well. See below.

LOCKING THE INSTALLATION AND PROGRAMME SET UP MENUS

It is possible to lock "INSTALLATION" and "PROGRAMME SET UP" menus to prevent access and possible disruption to your receiver's set up.
Line 1 **Child Lock** must be set to **"ON"** before you can access options 2, 3 or 4.


CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM

4

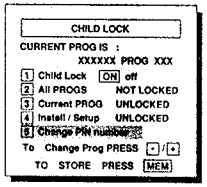
Press key **"4"** repeatedly :
Install/Set up toggles from **UNLOCKED** to **LOCKED** or from **LOCKED** to **UNLOCKED** depending on the initial setting. ——►
- Set Install/Set up to **LOCKED.**

MEM

Press the **"MEM"** key.

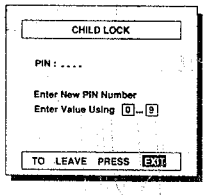
In order to access either the "INSTALLATION" or "PROGRAMME SET UP" menu it is now necessary to enter your PIN.

CHANGING YOUR PIN


CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM

5

Press key **"5"** to select the line "Change PIN number" ——►

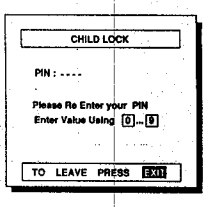


The following menu is displayed : ——►

- Use the number keys 0...9 of the remote control unit to enter the four numbers of the new PIN.

USING THE PROGRAMMING MENUS

Each time you enter a number the character "_" is replaced by a "*".
When you have entered the final number the following menu is displayed. ——►
Re-enter your PIN.

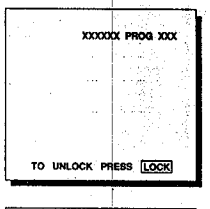


If this number is not the same as the one you initially entered the previous menu is displayed again.
If the number is the same as the one you first entered the "CHILD LOCK" menu is displayed again.

NOTES
We advise you to personalise your PIN. Should you forget it, please refer to the section "Resetting the PIN" at the end of this manual.

WATCHING A LOCKED PROGRAMME

If you select a locked programme, the following message is displayed ——►



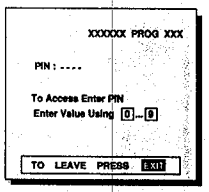
LOCK

Press **the "LOCK"** key on the remote control.
The following menu is displayed : ——►

- Use the number keys 0...9 on the remote control unit to enter the four numbers of your **PIN.**

Each time you enter a number the character "_" is replaced by a "*".

If the PIN is entered correctly you will be able to view the picture only for as long as you do not change programme.



If the number you enter is not correct the following message is displayed briefly :

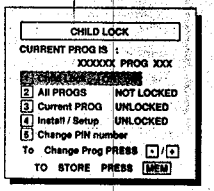
INVALID PIN
Try again ....

CANCELLING CHILD LOCK

Temporarily :
It is possible to cancel " CHILD LOCK" temporarily while the unit is in operation:

1

Press key **"1"** repeatedly :
Child Lock toggles from **ON** off to **on OFF** ——►


CHILD LOCK
CURRENT PROG IS :
XXXXXX PROG XXX
1 Child Lock ON off
2 All PROGS NOT LOCKED
3 Current PROG UNLOCKED
4 Install / Setup UNLOCKED
5 Change PIN number
To Change Prog PRESS -/+
TO STORE PRESS MEM

Set Child Lock to **Off** : Access is possible to all programmes and menus previously locked.

MEM

Press the **"MEM"** key.

NOTE :
If you now switch the receiver to standby and then switch it on again (ON), Child Lock will automatically be reset to ON, without loosing any of your previous settings.

Permanently :
Options 2, 3 and 4 of the "CHILD LOCK" menu can only be selected and displayed when Child Lock is **ON.**
- Re-enter options 2, 3 and 4 as described in this chapter under the procedures for locking and ensure in;

2 All PROGS are **NOT LOCKED**
3 Current PROG that every programme is **UNLOCKED.**
4 Install / Setup is **UNLOCKED.**

MEM

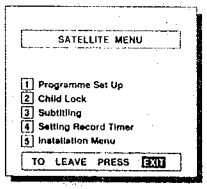
Press the **"MEM"** key.

USING THE PROGRAMMING MENUS (TSR 710 VT)

SUBTITLING

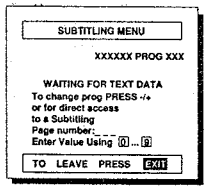
The main "SUBTITLING MENU" allows you to select subtitling automatically by simply choosing the desired language, when the broadcaster is using the IST page system, eg. FILMNT.

Press the **"MENU"** key :
The main "SATELLITE MENU" is displayed



Press key **"3"** to select the line "subtitling".

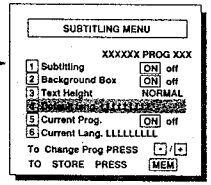
The following menu may be displayed :



Not all broadcasters are using the IST page system, in which case after approximately 1 minute the message "NO AUTO SUBTITLING ON THIS PROGRAMME" is displayed.
If however you know that a programme is carrying subtitles, you may display them by entering the relevent TELETEXT page number.

- Use the number keys 0.....9 on the remote control unit to enter the page number.
If the number is entered correctly you will be able to view the subtitles only for as long as you do not change programme, or put the receiver into Stanby.
(Your TSR 710 VT will support Eastern European languages, if you select a page number for Western European Subtitles, you may see missing or incorrect characters)

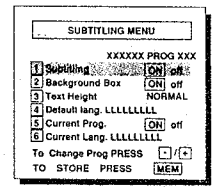
As soon as the IST page text data is detected the main "SUBTITLING MENU" is displayed.


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

SELECTING THE SUBTITLING LANGUAGE FOR THE CURRENT PROGRAMME

The current programme name and number is displayed in the menu.
Line 1 "Subtitling" must be set to **ON** before you can access options 2, 3, 4, 5 or 6.

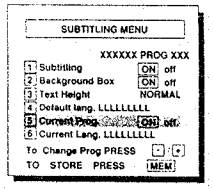
Press key **"1"** repeatedly :
Subtitling boggles from **ON** off to on **OFF** depending on the initial setting.
- Set Subtitling to **ON.**


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

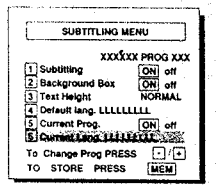
USING THE PROGRAMMING MENUS (TSR 710 VT)

Line 5 "Current Prog." must also be set to **ON** before you can access option 6.

Press key **"5"** repeatedly :

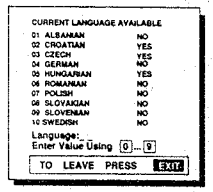

SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

Current Prog boggles from **ON** off to on **OFF** depending on the initial setting.
- Set Current Prog. to **ON.**


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

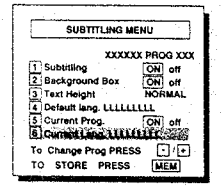
Press key **"6"** to select the line "Current Lang."

The following menu may be displayed :



- Use the number keys 0....9 on the remote control unit to enter the number corresponding to your language choice.

If the language you have chosen is available the main "SUBTITLING MENU" is seen with the selected language displayed.


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

If the language you have chosen is not available "NOT AVAIL" is displayed.

USING THE PROGRAMMING MENUS (TSR 710 VT)

If you only want to select the subtitling language for this programme

If you want to select the subtitling language for other programmes

Press the **"PR-"** or **"PR+"** key to select another programme.
If auto subtitling is available the main "SUBTITLING MENU" is displayed
Press key **"5"** repeatedly to confirm that Current PROG is **ON.**
Press key **"6"** and enter the number corresponding to your language choice from the menu.

Press the **"MEM"** key

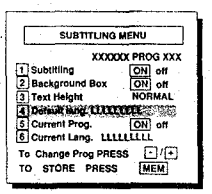
The corresponding subtitling language will automatically be displayed whenever the programme is selected.

NOTE
Ever if a Current language is not available when selected its selection is stored and the language name will be displayed as soon as it becomes available.

SELECTING A DEFAULT SUBTITLING LANGUAGE

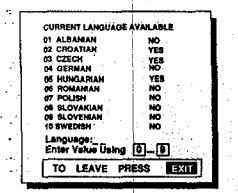
Use this feature if you want to set the same subtitling language for all programmes.
Line 1 "Subtitling" must be set to **ON** before you can access options 2, 3, 4, 5 or 6.

Press key **"4"** to select the line "Default Lang."


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

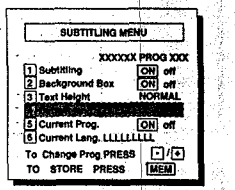
USING THE PROGRAMMING MENUS (TSR 710 VT)

The following menu may be displayed :



- Use the number keys 0....9 on the remote control unit to enter the number corresponding to your language choice.

The main "SUBTITLING MENU" is seen with the selected language displayed.



WARNING
Selecting a Default language will store this subtitling language for ***all*** programmes, overwriting any previous current programme subtitling language you may have selected.
If the Default language chosen is not available for a particular programme "NOT AVAIL" will be displayed in line 6 "Current Lang"

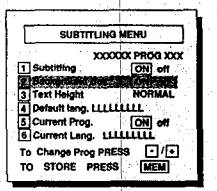
Press the **"MEM"** key.

SELECTING THE BACKGROUND BOX

Line 1 "Subtitling" must be set to **ON** before you can access options 2, 3, 4, 5 or 6

Press key **"2"** repeatedly :
Backgroud Box toggles from **ON off** to **on OFF** depending on the initial setting.
Set "Background Box" to **ON.**

Press the **"MEM"** key :

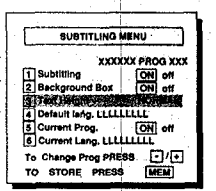

SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

SELECTING THE TEXT HEIGHT

Line 1 "Subtitling" must be set to **ON** before you can access options 2, 3, 4, 5 or 6

Press key **"3"** repeatedly :
Text height toogles from **NORMAL** to **DOUBLE** depending on the initial setting.

Press the **"MEM"** key .


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLLL
To Change Prog PRESS -/+
TO STORE PRESS MEM

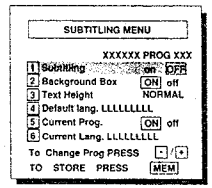
USING THE PROGRAMMING MENUS (TSR 710 VT)

CANCELLING SUBTITLING

ALL PROGRAMMES :

1

Press key "**1**" repeatedly :
Subtitling toggles from **ON** off to on **OFF**
depending on the initial setting.


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON OFF
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLL
5 Current Prog. ON off
6 Current Lang. LLLLLLLL
To Change Prog PRESS - / +
TO STORE PRESS MEM

- Set Subtitling to **OFF**

MEM

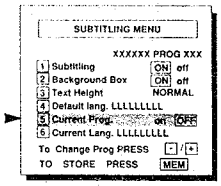
Press the "**MEM**" key.

No subtitles will be displayed on any programme, however as soon as "Subtitling" is switched back **ON**, all your previous settings will be restored.

INDIVIDUAL PROGRAMMES :

5

Press key "**5**" repeatedly :
Current Prog. toggles from **ON** off to on **OFF**
depending on the initial setting.


SUBTITLING MENU
XXXXXX PROG XXX
1 Subtitling ON off
2 Background Box ON off
3 Text Height NORMAL
4 Default lang. LLLLLLLL
5 Current Prog. on OFF
6 Current Lang. LLLLLLLL
To Change Prog PRESS - / +
TO STORE PRESS MEM

- Set Current Prog. to **OFF**

PR - PR +

Press the "**PR-**" or "**PR+**" key repeatedly to select another programme.

5

Press key "**5**" repeatedly to confirm the Current Prog. is **OFF**
Repeat this procedure as necessary for other programmes.

NOTES
As soon as "Current Prog" is switched **OFF** and stored the previous language selected is lost. If it is subsequently switched back **ON** the language reverts to the Default Setting. Refer to the section "SELECTING THE DEFAULT SUBTITLING LANGUAGE".

USING THE PROGRAMMING MENUS

TIMER

The "SETTING RECORD TIMER" menu allows you to programme your receiver to switch on, set to a particular programme, in order to record it in your absence. There are eight events available which can be set up to one year in advance.

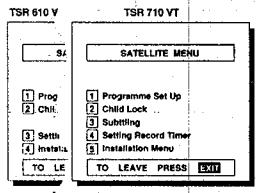
BEFORE RECORDING

- *Make sure that the clocks in the receiver and the video recorder are set correctly*
- *The recording start and finish times set in the video recorder must be the same as those programmed in the receiver.*
- *Set the video recorder to AUX if it is connected to the satellite receiver by a SCART cable.*

PROGRAMMING

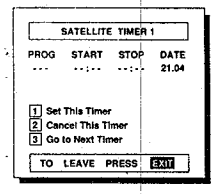
MENU

Press the "**MENU**" key :
The main "SATELLITE MENU" is displayed



4

Press key "**4**" to select the line "Setting Record Timer".
The "SATELLITE TIMER 1" menu is displayed.
(If the "Clock Setup" menu is displayed, you will have to set or reset the time. Please refer to the section "SETTING THE CLOCK").



If the timer menu displayed is full, ***Press*** key "**3**" again to search for an unused event or,

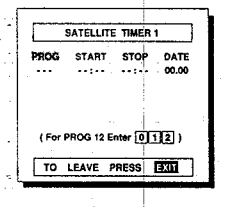
2

Press key "**2**" :
This will erase an invalid event.

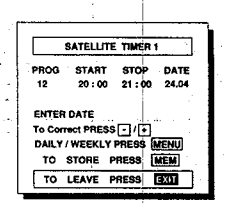
1

Press key "**1**" :
The following programming menu is displayed.

PROGRAMME AND DATE



- Use the number keys on the remote control to enter;
- The **PROG**ramme number - Which programme is to be recorded ?
  If the programme is locked,
  the message "LOCKED" is displayed.
  If you want to record a locked programme you must first unlock it..
- The **START** time - When does the programme start ?
- The **STOP** time - When does the programme finish ?
  The entered times must correspond to the 24 hour clock, ie 8 pm = 20.00
- The transmission **DATE** - Enter the date if not today's.
  When all the data is entered the following menu is displayed


SATELLITE TIMER 1
PROG START STOP DATE
12 20:00 21:00 24.04
ENTER DATE
To Correct PRESS - / +
DAILY / WEEKLY PRESS MENU
TO STORE PRESS MEM
TO LEAVE PRESS EXIT

To make selections or changes, the cursor can be moved left and right with the - and + keys.

DAILY / WEEKLY

MENU

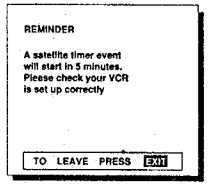
Press the "**MENU**" key repeatedly :
to toggle to **DAILY** or **WEEKLY**.
If the satellite receiver is in **"DAILY"** mode it will switch on each day of the week starting from the programmed date.
If the satellite receiver is in **"WEEKLY"** mode it will switch on, on the appropriate day, every week starting from the programmed date, for example Friday of each week.
When you have finished programming :

MEM

Press the**"MEM"** key.

USING THE PROGRAMMING MENUS

NOTES
- As soon as a timer is stored the "**TIMER**" indicator on the front panel lights until all events are completed or cancelled.
- Five minutes before recording starts the following reminder is displayed :



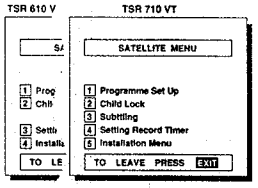
- Be careful not to overlap timers.If timer events do overlap, the first is completed before the second starts.
- You cannot watch one satellite programme while recording another.
- If you are watching another programme when recording starts, the programme will change and the receiver will be in record lock mode.
- The receiver erases elapsed timer events automatically.

INSTALLATION MENU

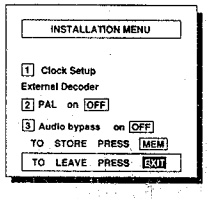
Press the "**MENU**" key :

The main "SATELLITE MENU" is displayed

Press key "**5**" (or "**4**")to select the line "Installation Menu".



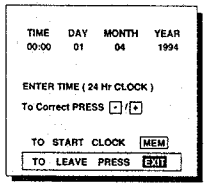
The following menu is displayed



SETTING THE CLOCK

Press key "**1**" to select the line "Clock Setup".

The menu illustrated opposite is displayed



- Use the number keys 0 ... 9 on the remote control keypad to enter the figures for the time (in 24 hour format, ie 8 pm = 20.00), day, month and year in sequence.
- Use the - and + keys to move along the line to correct any errors.

Press the"**MEM**" key to start the clock.

IMPORTANT
The receiver's internal clock keeps time as long as the unit is switched on or in standby mode. If you switch off the receiver at the power switch you will need to reset the clock.

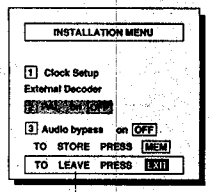
USING THE PROGRAMMING MENUS

EXTERNAL DECODER

FILTER

Press key "**2**" repeatedly :

The filter setting toggles from on OFF to ON off depending on the initial setting.



ON : The output to the external decoder is filtered for use with PAL or SECAM signals.

OFF : The output to the external decoder is not filtered for use with MAC signals.

AUDIO BYPASS

Depending on the type of external decoder you have, it may be necessary to switch the audio bypass on or off to receive the correct sound.

Press key "**3**" repeatedly :
The Audio Bypass setting toggles from on OFF to ON off depending on the initial setting.

ON : Audio will not be passed through the external decoder.

OFF : Audio will be passed through the external decoder.

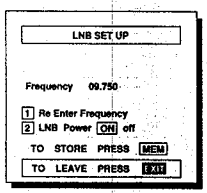
Press the "**MEM**" key to store your settings.

LNB SET UP

Your satellite receiver is factory set for use with an LNB (Low Noise Block) with a local oscillator frequency of 9.750 GHz.

If you experience difficulty in obtaining the expected programme even though the entered frequency values are correct and in agreement with the values given in your satellite television magazine, you may have an LNB with a different local oscillator frequency.

Press and hold down key "**9**" for 4 seconds :
The "LNB SET UP" menu is displayed.

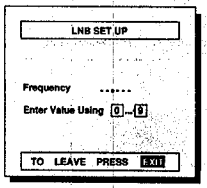


Press key "**2**" :
LNB Power toggles from on OFF to ON off depending on the initial setting.
If your receiver is connected directly to the outdoor unit supplied, LNB Power must be set to **ON**.

CHANGING THE LOCAL OSCILLATOR FREQUENCY

The satellite receiver is factory-set to a local oscillator frequency of 9.750 GHz. You can however, use the receiver with an LNB designed for a different frequency.

Press key "**1**" to select the line "Re Enter frequency".
The menu illustrated opposite is displayed.



- Use the number keys 0...9 on the remote control unit to enter the new value for the local oscillator frequency.

USING THE PROGRAMMING MENUS

LNB RANGES

Local oscillator frequency	Frequency (GHz)	Satellite
10.000	10.920 - 12.050	Astra 1A,B,C Intelsat/Eutelsat
09.750	10.700 - 11.800	Astra 1A,B,C,D Intelsat / Eutelsat
10.750	11.670 - 12.747	TDF / TVSAT /HISPASAT
11.475	12.395 - 12.747	TELECOM

NOTES :

- If an invalid frequency is entered it will not be accepted.
- if the frequency has been entered correctly the previous "LNB SET UP" menu is displayed with the new frequency.

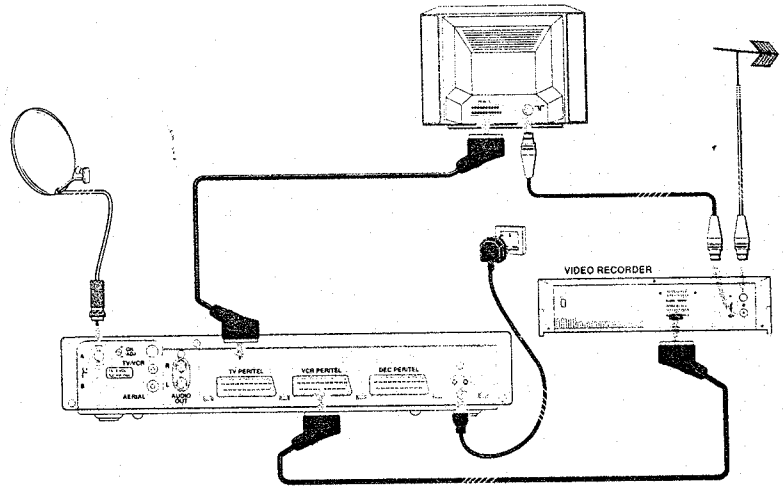
Press the **"MEM"** key to store your new setting.

FURTHER CONNECTIONS

CONNECTING THE TELEVISION AND VIDEO RECORDER TO THE SATELLITE RECEIVER USING SCART CABLES

In this configuration the television set's UHF aerial can be connected through :

- The satellite receiver, as described on page 6, or
- The video recorder as illustrated below.



IMPORTANT NOTES

- **If the television set is connected to the satellite receiver with a SCART cable** you can use the TV/VCR/SAT key on the remote control unit to switch from terrestrial to satellite programmes provided that the television set recognises status switching from the SCART connector.

  We recommend that you ask the advice of your qualified installation engineer.

- **If the video recorder is connected to the satellite receiver with a SCART cable :**

  To record :
  You will have to select the video recorder's AUX or AV function in order to record programmes from the satellite receiver.

  To play :
  Depending on your VCR, when first switching to play the VCR picture may be routed automatically to your TV. Manual selections of the required signal source can be made using the TV/VCR/SAT key of the remote control.

  During a timer recording :

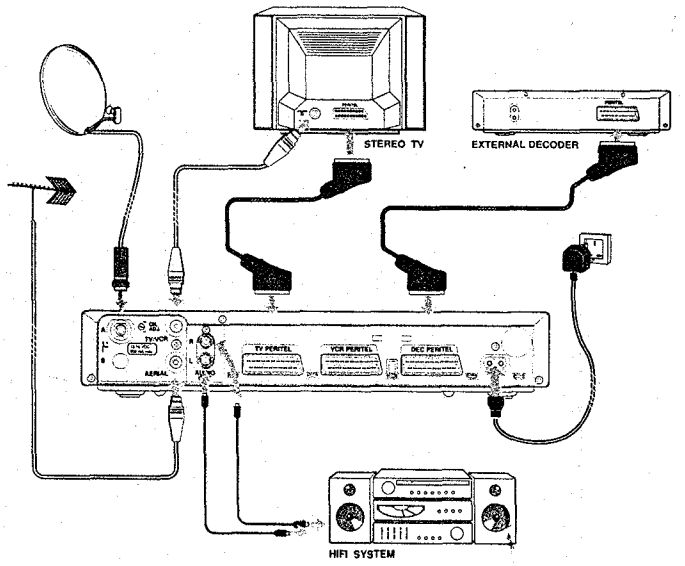
  It is possible to monitor the programme being recorded, by selecting VCR mode with the TV/VCR/SAT key.

FURTHER CONNECTIONS

AUXILIARY CONNECTIONS TO THE SATELLITE RECEIVER

External decoder :

The satellite receiver is equipped with an internal decoder which allows you to watch programmes scrambled using the VideoCrypt - MultiChoice system.
You can also watch programmes encoded in a different system by connecting the appropriate external decoder to the DEC PERITEL socket on the receiver.



Stereo equipment :

To get the best stereo sound performance from your satellite receiver, connect a stereo Hi-Fi system or a stereo television set.

WHAT TO DO IF ...

VIDEOCRYPT MESSAGES

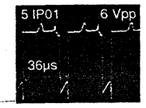
A number of messages may be displayed in connection with the VideoCrypt - MultiChoice decoder and your viewing card. These include :

MESSAGE	ACTIONS
PLEASE INSERT CARD	• Make sure your card is fully inserted into the receiver and is the right way up.
PLEASE WAIT	• Wait, and a further message or the descrambled picture will appear in a few seconds.
INCORRECT CARD	• The wrong card is inserted for the programme you have tuned to. Insert the correct card.
THIS CHANNEL IS BLOCKED	• Your subscription is not valid for this channel.
YOUR CARD IS INVALID	• The card may be damaged or incorrectly inserted. Check the card is inserted properly. If this does not solve the problem, phone Customer Service for a replacement card.
THIS CARD IS BLOCKED	• Your card has been disabled. Call Customer Service.
THIS CHANNEL IS EXPIRED	• Your card is out of pre-enablement or your subscription has expired.
THIS REGION IS BLOCKED	• The programme is not cleared for this region.
PUSH BUTTON TO VIEW	• Appears when a pay per view programme is broadcast and you have sufficient tokens to purchase the programme. Press the "PAY" key for at least two seconds.
PROGRAMME IS BLOCKED	• The parental rating of this programme is higher than the rating record in the card.
P # T # P # T #	• Token information is displayed when the card is inserted and if you press the "PAY" key for more than two seconds.
INSERT OLD CARD	• If you have pay per view tokens still remaining on your old card, it is possible to transfer them onto your new card. This message will be given at the start of the transfer process. Insert your old card.
PUSH BUTTON TO TRANSFER	• Press the "PAY" key for at least two seconds. Please ignore this message if you have no tokens on your old card.
INSERT NEW CARD	• Insert your new card.

If you are in doubt concerning any other messages, please contact Customer Service.

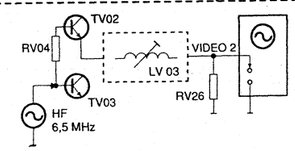
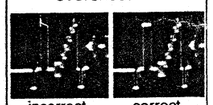
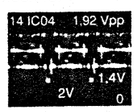
CONTROLS - REGLAGES - EINSTELLREGLER - REGOLAZIONE - AJUSTES

1 - POWER SUPPLY

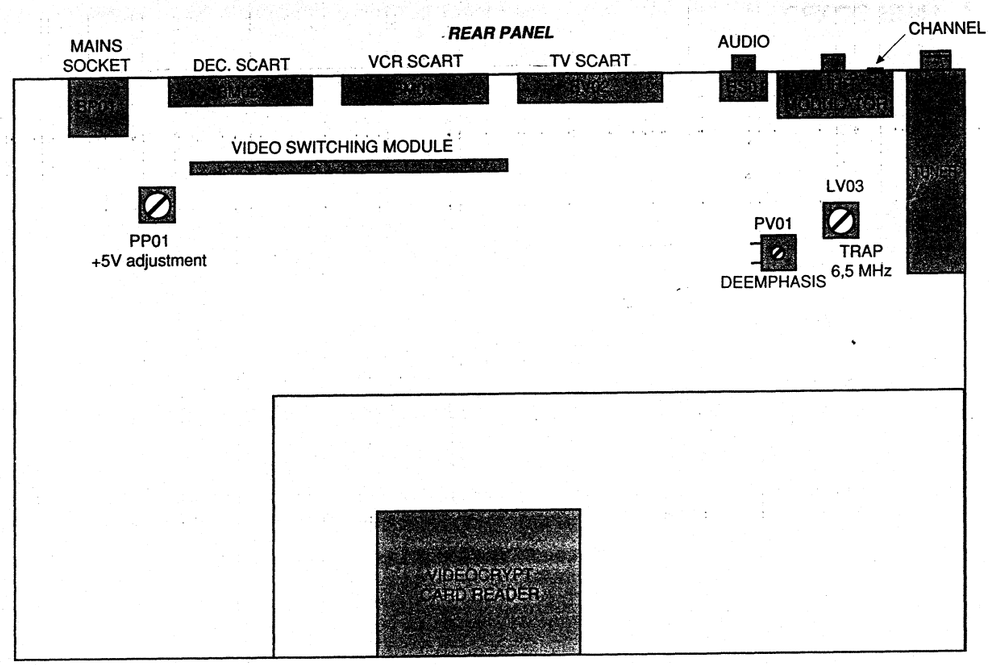
N° :	Item	Point of injection	Signal injected	Test point	Adjustment point	Test Equipment	Adjust to
1.1	5 V AL adjustment	Satellite tuner	Select a satellite station on the receiver	+ CP19 / GNDS	PP01	Voltmeter	With mains voltage at 220V ±1% adjust for V = 4,99 V - 5,01 V
1.2	+ 12 V AL. + 12 V SW + 24 V + 28 V + 13 V SAT + 17 V SAT	Satellite tuner	Select a satellite station on the receiver	+ CP20 / GNDS E.TP03 / GNDS + CP14 / GNDS K DP29 / GNDS 1.Tuner / AGND 1.Tuner / AGND	no adjustment possible	Voltmeter	Check for : 12 V ± 5 % 12 V ± 5 % 24 V Unload +6 -1V 28 V ± 5% 12,5 V - 14 V 17 V - 19 V
1.3	Switching period	Satellite tuner	Select a satellite station on the receiver	5 IP01 / GNDP	no adjustment possible	Oscilloscope ⚠	Check for T = 32 µs 

⚠ **WARNING : While you are making these measurement, you and the oscilloscope must not be earthed. Do not touch any metal parts of the oscilloscope.**

2 - VIDEO PROCESSING

N° :	Item	Point of injection	Signal injected	Test point	Adjustment point	Test Equipment	Adjust to
2.1	6,5 MHz Rejector	Connect base TV01 to AGND Apply a 300 mVpp 6,5MHz HF signal to Base of TV03 		RV26 (VIDEO2) AGND	LV03	Oscilloscope	Adjust for minimum noise amplitude
2.2	Deemphasis	Satellite tuner	Select a satellite station on the receiver which has test line 17	19 of TV SCART	PV01	Oscilloscope triggered on test line 17.	Adjust for minimum overshoot 
2.3	I Video check	Satellite tuner	Select a satellite station on the receiver	14 of IC04	-	Oscilloscope	Check for : 

3 - LOCATION OF CONTROLS - EMPLACEMENT DES REGLAGES - LAGE DER EINSTELLREGLER - POSIZIONZ REGOLAZIONI - LOCALIZACIÓN DE LOS AJUSTES



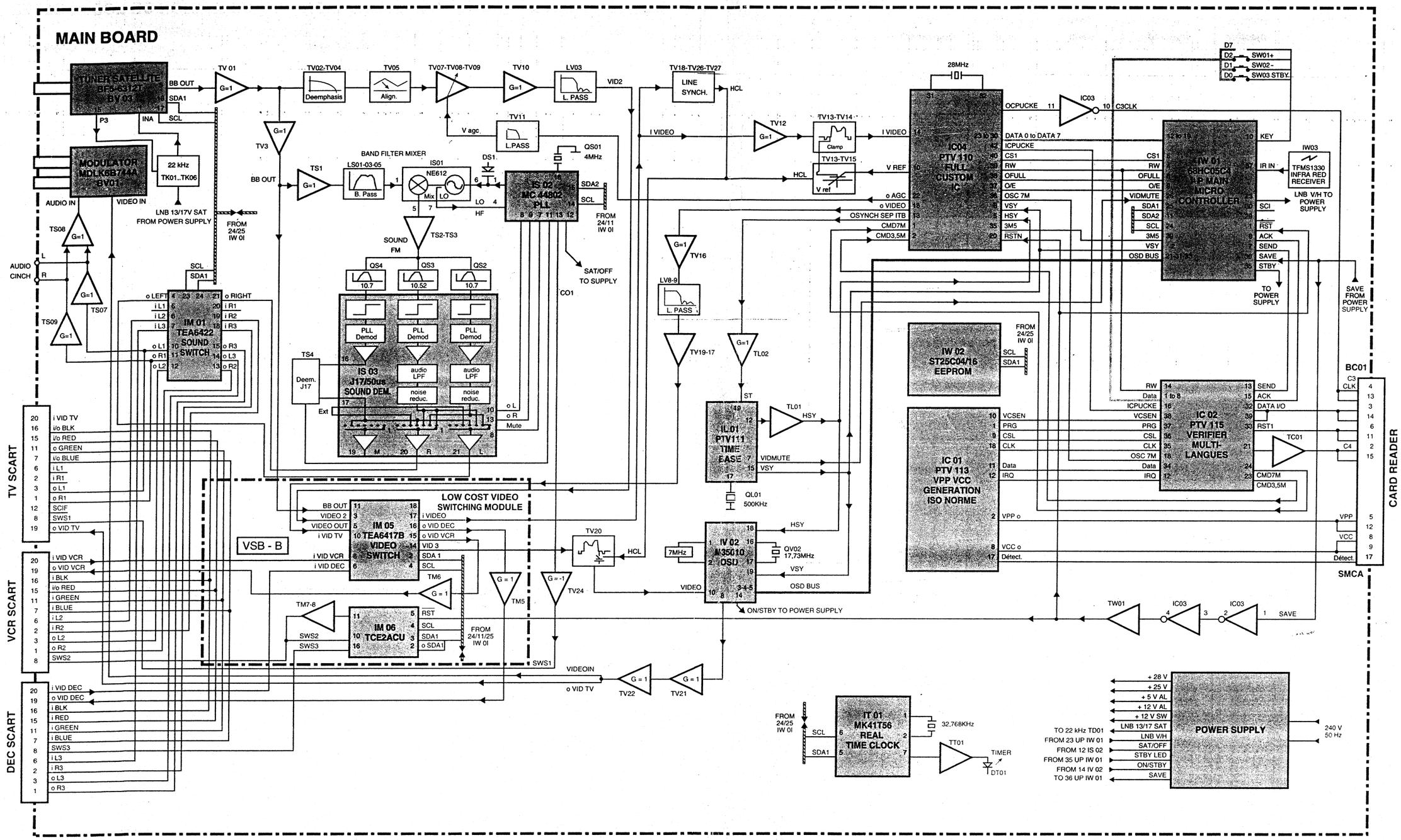
4 - RESETTING THE PIN NUMBER

Switch off the satellite receiver at the power switch, press and hold down the "standby" key ⏻ on the front panel and switch the receiver on again, continuing to press the standby key for at least 6 seconds.

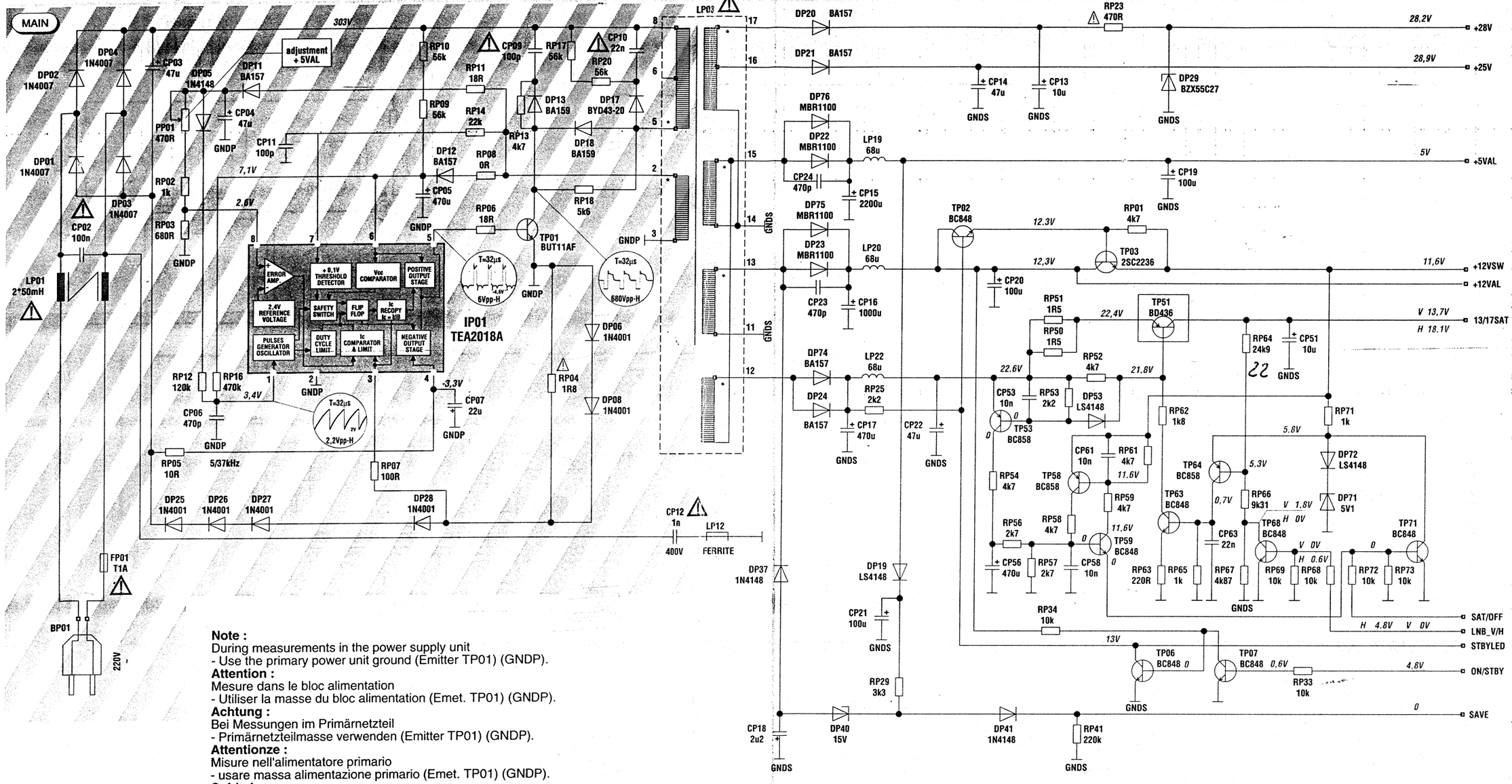
The main "Satellite menu" will appear.

Press "2" to select the line "Child Lock". You will now be able to enter a new PIN number.

BLOCK DIAGRAM - SCHEMA SYNOPTIQUE - BLOCKSCHALTBILD - SCHEMA A BLOCCI - ESQUEMA DE BLOQUES



POWER SUPPLY - ALIMENTATION - SCHALT NETZEIL - ALIMENTAZIONE - ALIMENTACION



Note :
During measurements in the power supply unit
- Use the primary power unit ground (Emitter TP01) (GNDP).

Attention :
Mesure dans le bloc alimentation
- Utiliser la masse du bloc alimentation (Emet. TP01) (GNDP).

Achtung :
Bei Messungen im Primärnetzteil
- Primärnetzteilmasse verwenden (Emitter TP01) (GNDP).

Attentionze :
Misure nell'alimentatore primario
- usare massa alimentazione primario (Emet. TP01) (GNDP).

Cuidado :
Medida en el bloque de alimentacion
- Utilizar la masa del bloque de alimentacion (Emet. TP01) (GNDP).

Part of board connected to mains supply.
Partie du chassis reliée au secteur.
Primärseite des Netzteils.
Parte dello châssis collegata alla rete.
Parte del chassis conectar a la red.

⚠ *Indicates critical safety components, and identical components should be used for replacement.*

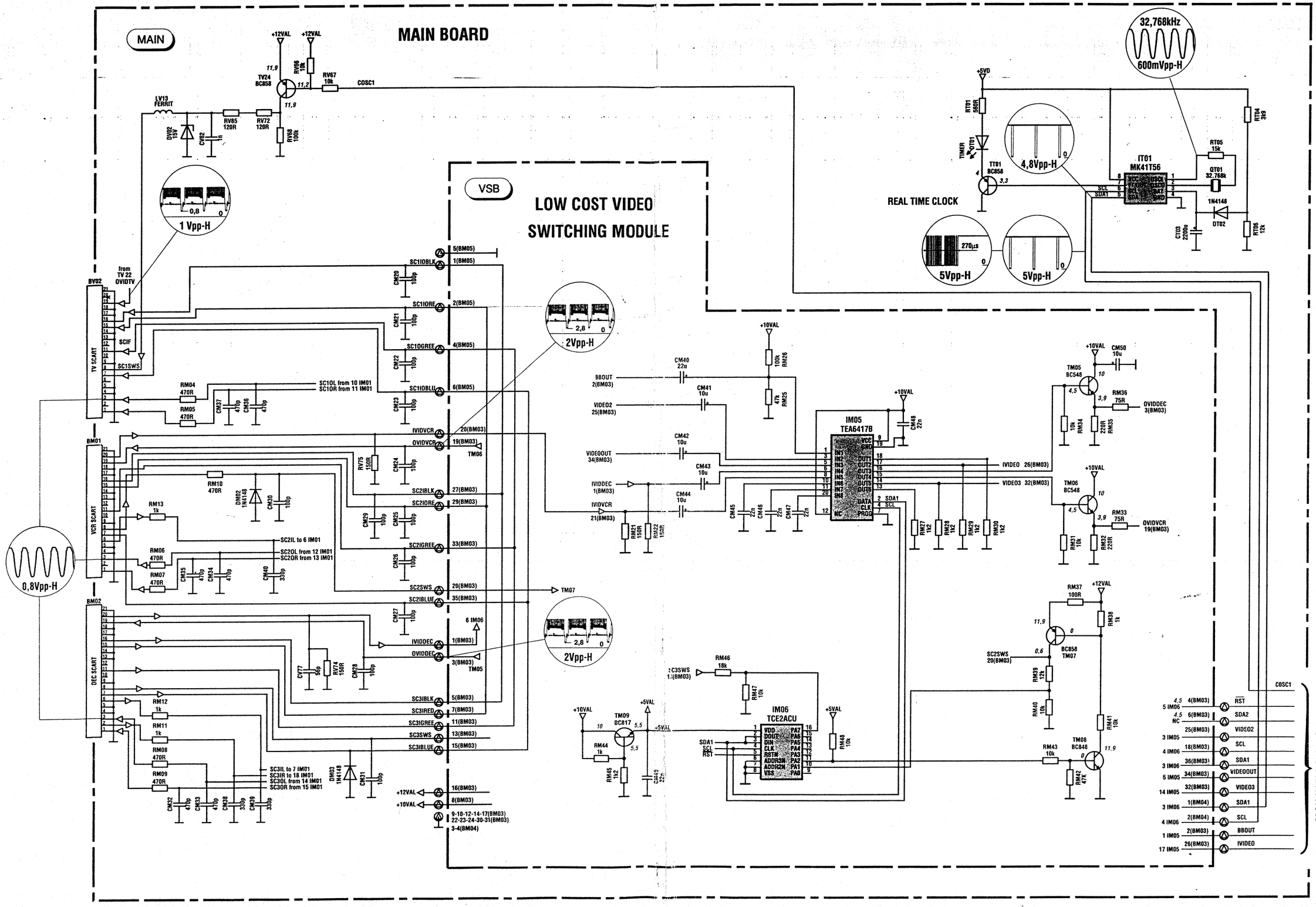
Le remplacement des éléments de sécurité (repérés avec le symbole ⚠) par des composants non homologués selon la Norme CEI 65 entraine la nonconformité de l'appareil.
Dans ce cas, la responsabilité du fabricant n'est plus engagée.

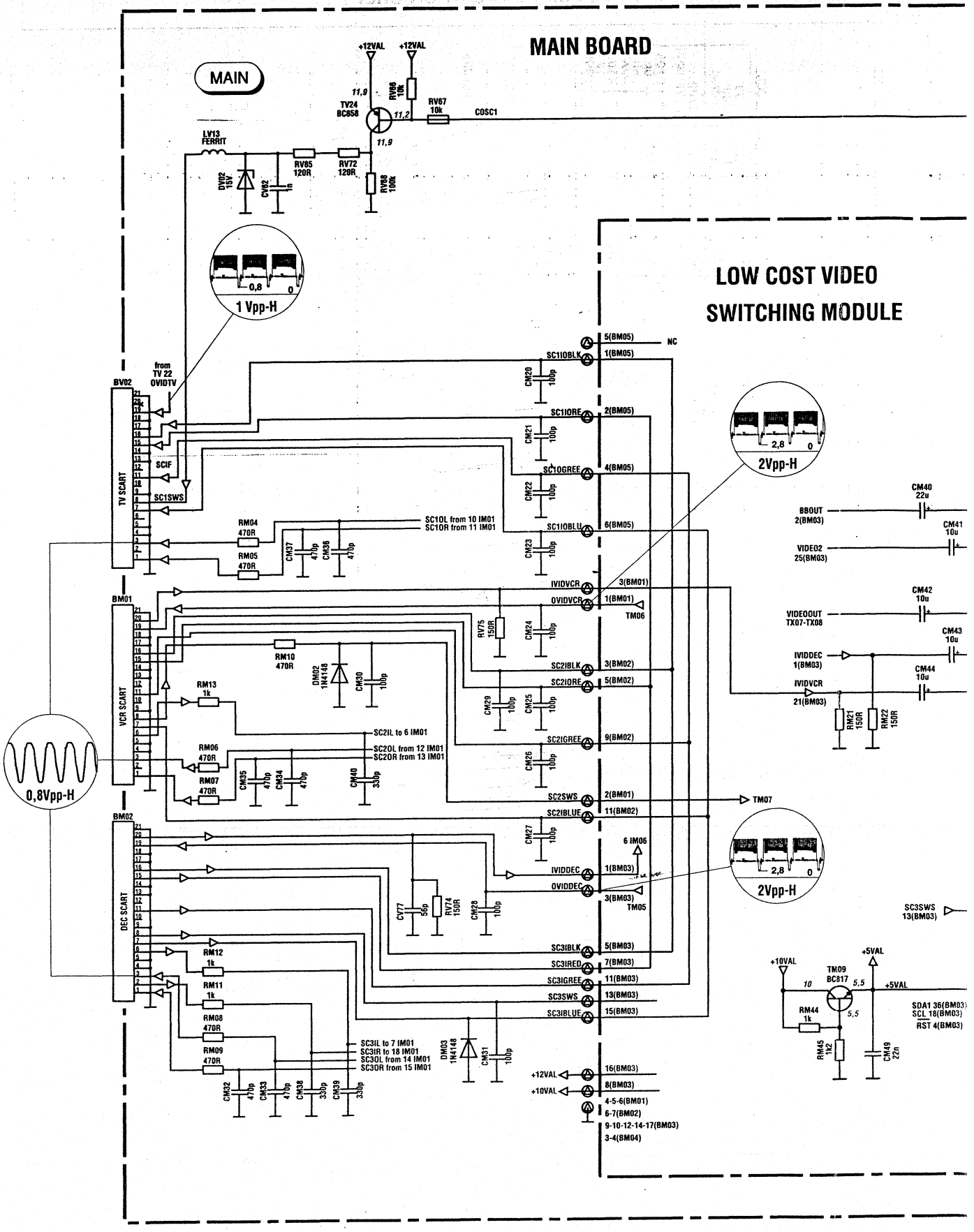
Achtung: Sicherheitsteile dürfen nur durch Originalteile ersetzt werden, sonst erlischt die Haftung des Herstellers.

La sostituzione degli elementi di sicurezza (marchi con il segno ⚠) con componenenti non omologati secondo la norma CEI 65 comporta la non conformitá dell'apparecchio.
In tal caso é " esclusa la responsabilita' " del costruttore.

La subtitución de elementos de seguridad (marcados con el simbolo ⚠) por componentes no homologados segun la norma CEI 65, provoca la no conformidad del aparato.
En ese caso, el fabricante cesa de ser responsable.

VIDEO SWITCHING - COMMUTATION VIDEO - VIDEOUMSCHALTUNG - COMMUTAZIONI VIDEO - CONMUTACIONES VIDEO (TSR 610 V)




MAIN BOARD
MAIN
LOW COST VIDEO
SWITCHING MODULE
+12VAL
+10VAL
+5VAL
COSC1
TV SCART
VCR SCART
DEC SCART
BV02
BM01
BM02
from TV 22 OVIDTV
SCIF
SC1SWS
SC1OL from 10 IM01
SC1OR from 11 IM01
SC2IL to 6 IM01
SC2OL from 12 IM01
SC2OR from 13 IM01
SC3IL to 7 IM01
SC3IR to 18 IM01
SC3OL from 14 IM01
SC3OR from 15 IM01
1 Vpp-H
2Vpp-H
0,8Vpp-H
IVIDVCR
OVIDVCR
IVIDDEC
OVIDDEC
SC1IOBLK
SC1IORE
SC1OGREE
SC1IOBLU
SC2IBLK
SC2IORE
SC2IGREE
SC2SWS
SC2IBLUE
SC3IBLK
SC3IRED
SC3IGREE
SC3SWS
SC3IBLUE
TM06
TM07
TM05
6 IM06
BBOUT 2(BM03)
VIDEO2 25(BM03)
VIDEOOUT TX07-TX08
IVIDDEC 1(BM03)
IVIDVCR 21(BM03)
SC3SWS 13(BM03)
SDA1 36(BM03)
SCL 18(BM03)
RST 4(BM03)
4-5-6(BM01)
6-7(BM02)
9-10-12-14-17(BM03)
3-4(BM04)

LTUNG - COMMUTAZIONI VIDEO - CONMUTACIONES VIDEO (TSR 710 VT)

COST VIDEO
HING MODULE

VSB

32,768kHz
600mVpp-H

4,8Vpp-H

5Vpp-H

5Vpp-H

270µs

REAL TIME CLOCK

IM05
TEA6417B

IM06
TCE2ACU

IX01
SAA5281P/H

IT01
MK41T56

TX01 BC548
TX02 BC858
TX03 BC858
TX04 BC858
TX05 BC848
TX06 BC848
TX07 BF554
TX08 BF554
TM05 BC548
TM06 BC548
TM07 BC858
TM08 BC848
TM09 BC817

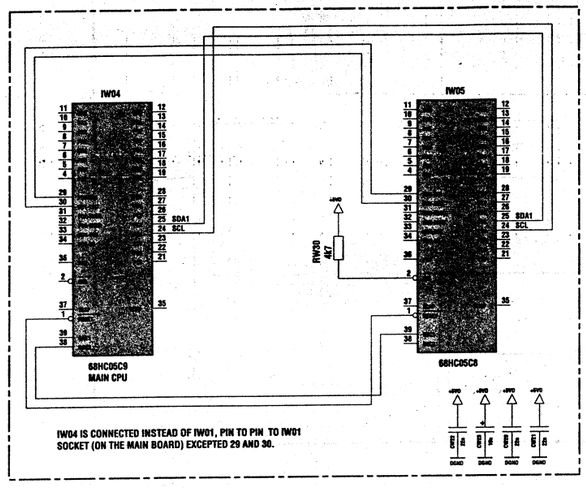
IVIDEO 26(BM03)
VIDEO3 32(BM03)
OVIDDEC 3(BM03)
OVIDVCR 19(BM03)
VIDEOOUT
VIDTXT CM42
Y 22 IX01
COR 20 IX01
C0SC1

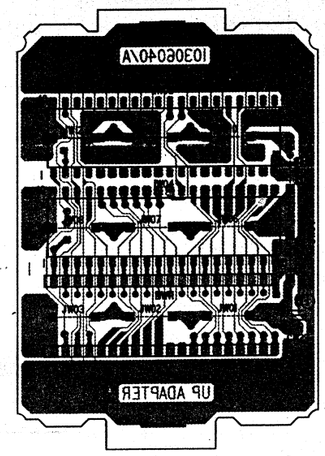
SC3SWS 13(BM03)
SC2SWS 20(BM03)
SDA1 36(BM03)
SCL 18(BM03)
RST 4(BM03)

FROM MAIN SIGNAL BOARD

4(BM03) RST
6(BM03) SDA2
1(BM02) VIDEO2
18(BM03) SCL
12(BM02) SDA1
10(BM02) VIDEOOUT
8(BM02) VIDEO3
1(BM04) SDA1
2(BM04) SCL
2(BM03) BBOUT
2(BM02) IVIDEO

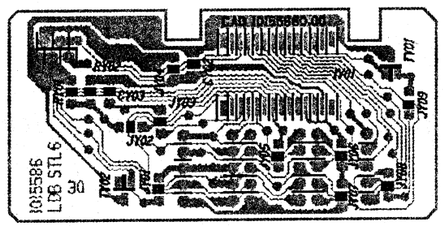
UP ADAPTER

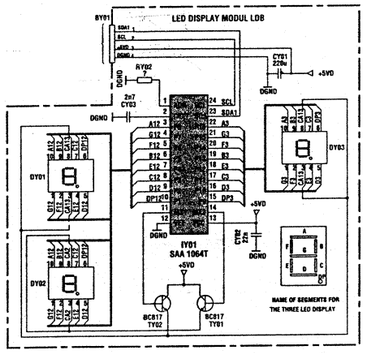




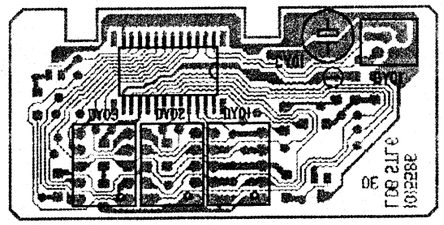
LED DISPLAY MODUL

Solder side - Côté cuivre - Lötseite -
Lato saldature - Lado del cobre



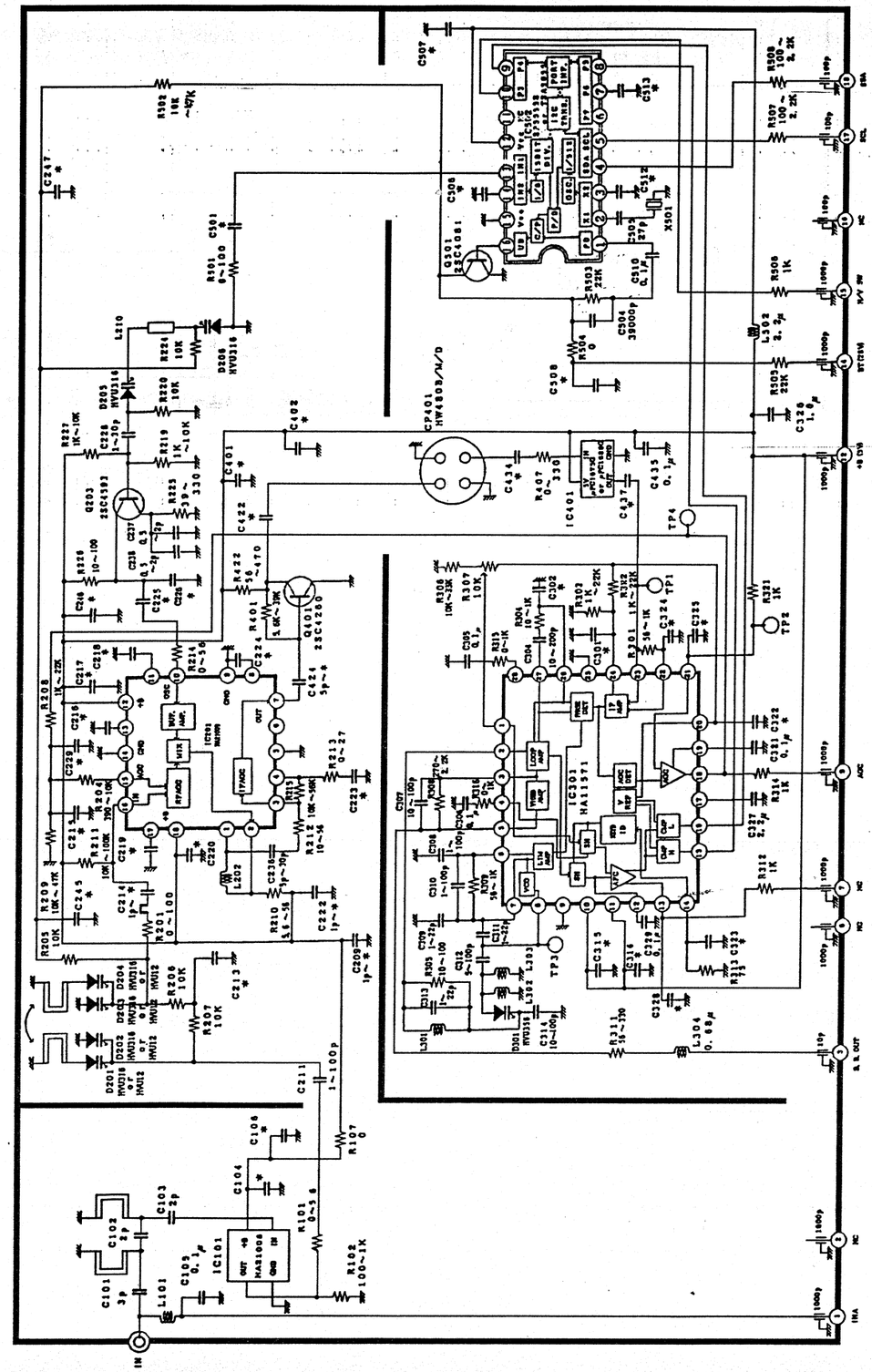


Components side - Côté elements -
Bestückungsseite - Lato componenti -
Lato componentes



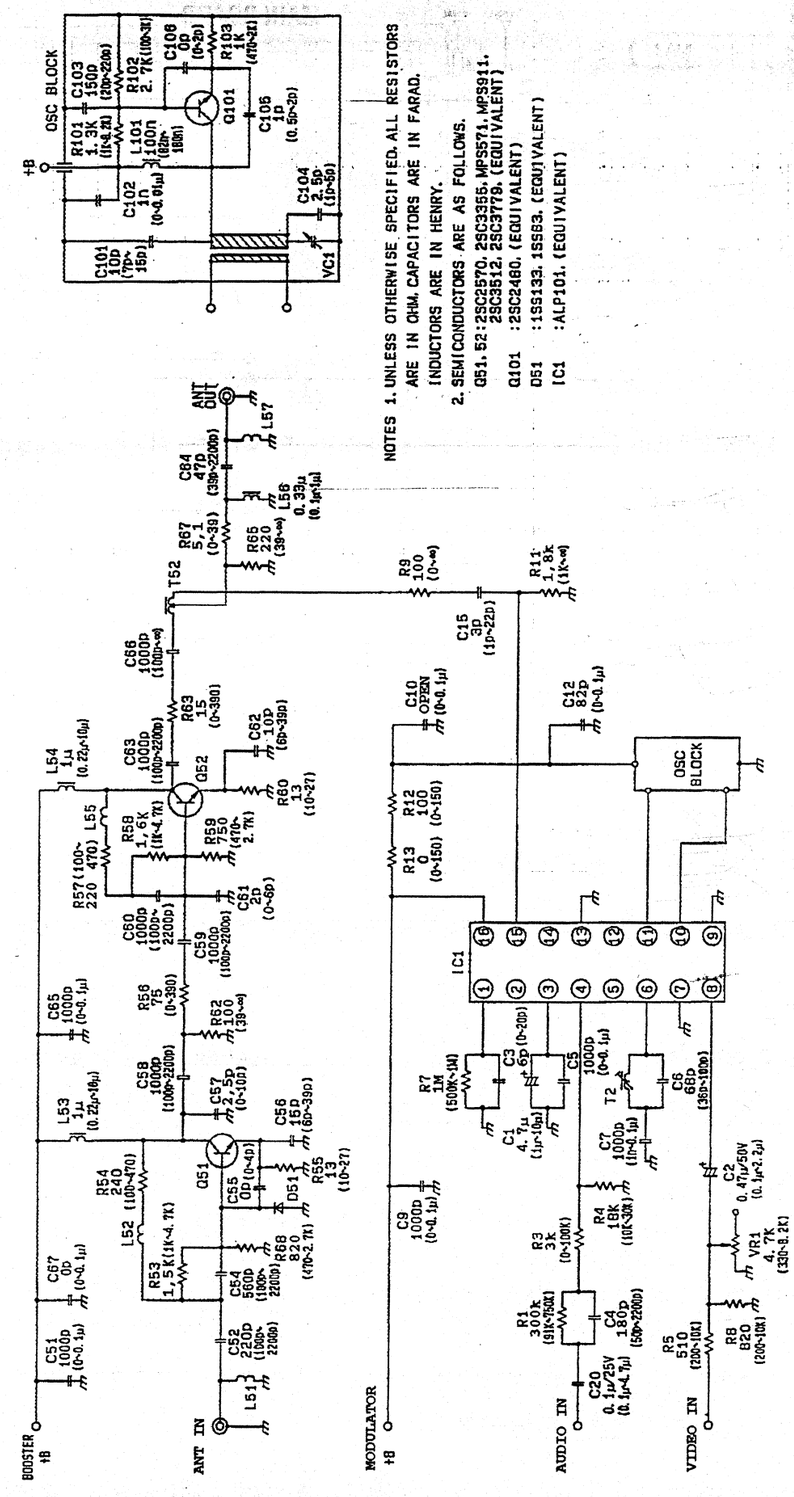
TUNER - ANTENNENVERTEILER

(FOR INFORMATION ONLY)



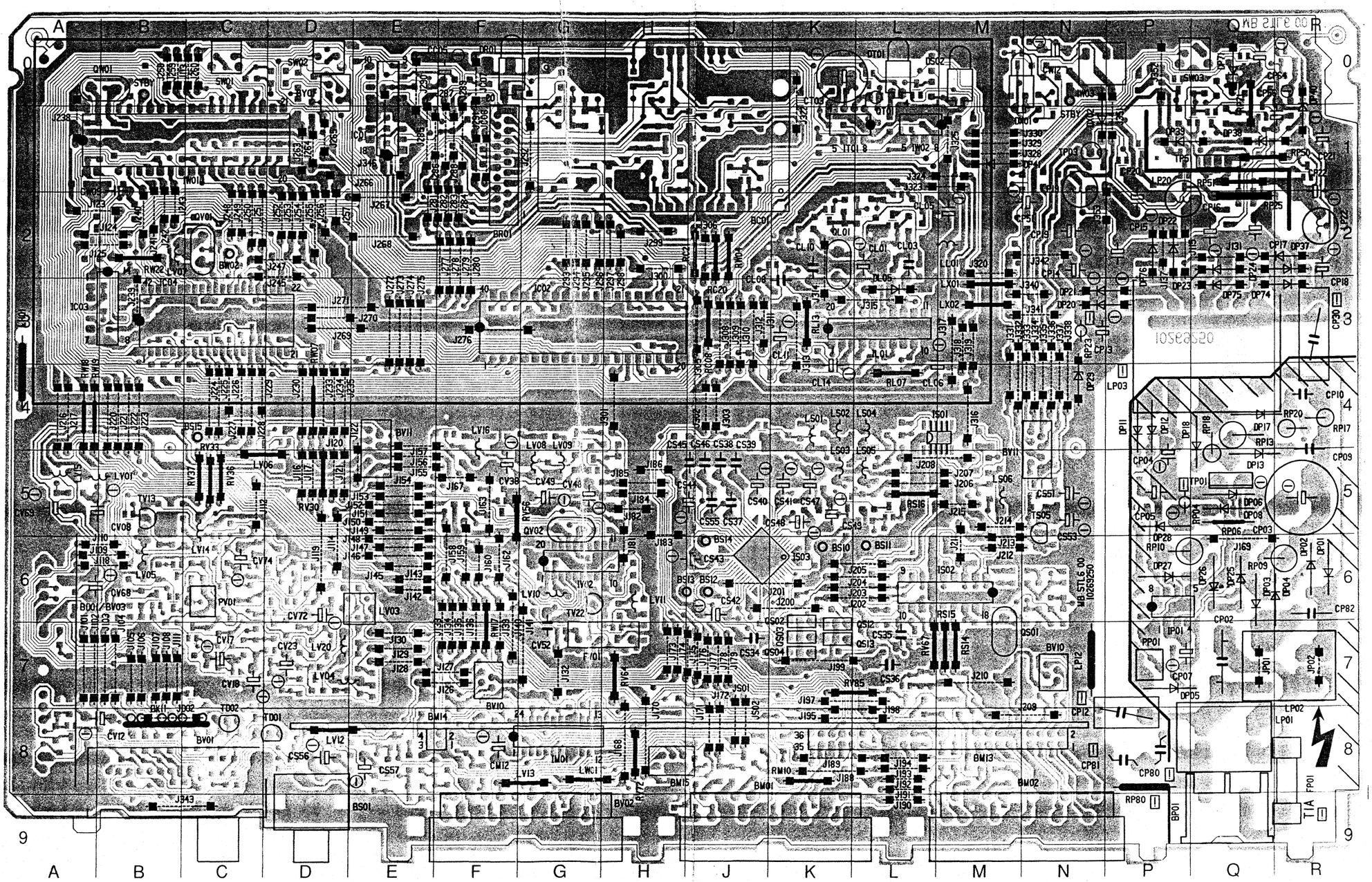
MODULATOR - MODULATEUR - MODULATORE - MODULADOR

(FOR INFORMATION ONLY)



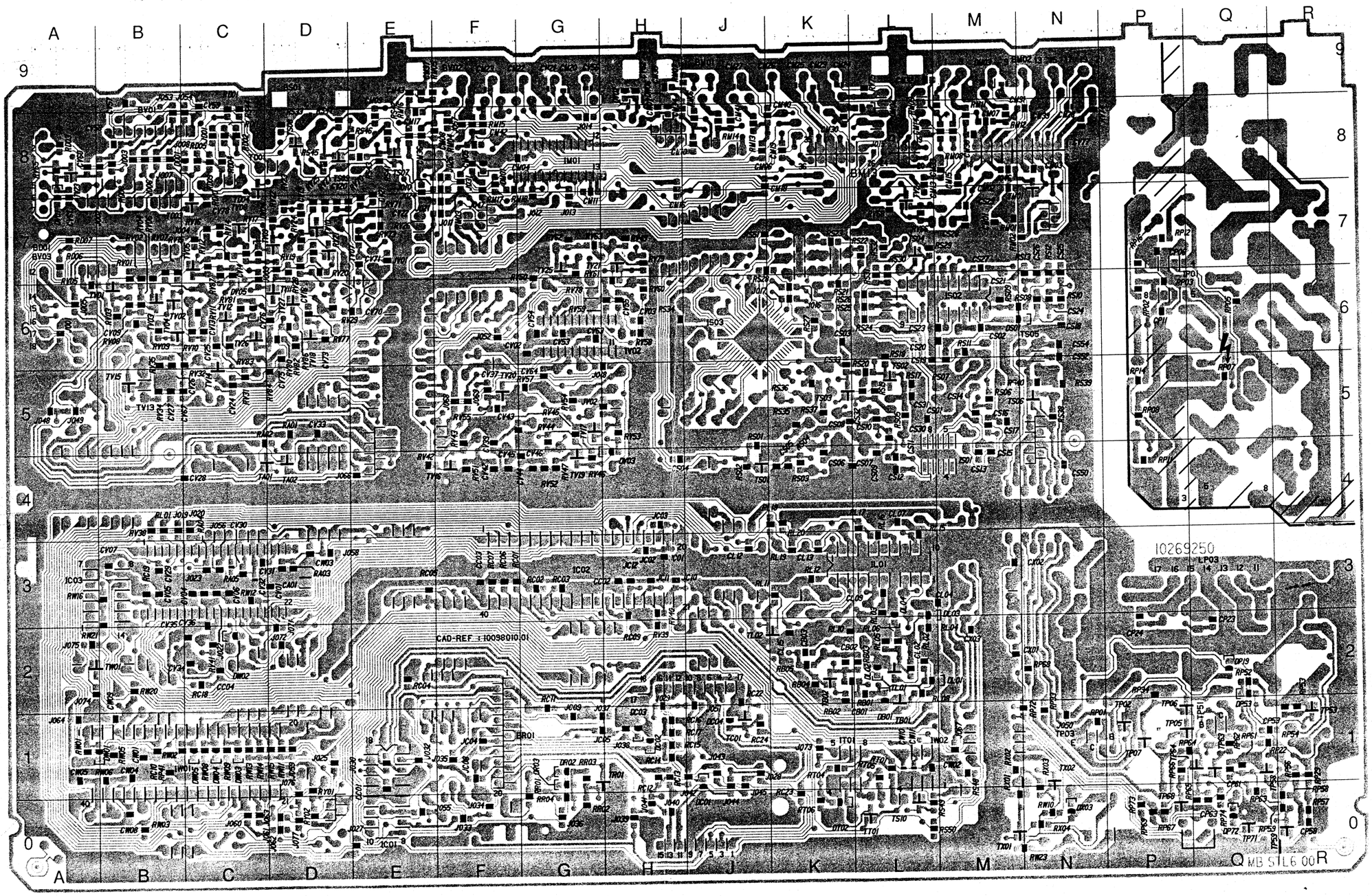
MAIN CIRCUIT BOARD - CIRCUIT IMPRIME DE LA PLATINE PRINCIPALE (Index 01)

(Components side - Côté éléments)



MAIN CIRCUIT BOARD - CIRCUIT IMPRIME DE LA PLATINE PRINCIPALE (Index 01)

(Solder side - Côté cuivre)



COMPONENTS LOCATION

All components are not necessary soldered on the circuit board (according to the different versions).

* Components mounted on solder side of PCB.

B01	B8*
BC01	J1
BD01	A6
BD01	A7*
BM01	K9
BM01	J9*
BM02	N9
BM02	M9*
BM11	L8*
BM12	K8*
BM13	M8
BM13	L8
BM13	M8*
BM14	F8
BM15	H8
BP01	Q9
BR01	F2
BR01	F1*
BS01	D9
BS01	D9*
BS10	K6
BS11	L6
BS12	J6
BS13	H6
BS14	J6
BS15	C4
BV01	C8
BV02	G9
BV02	F9*
BV03	B6
BV03	A7*
BV10	N7
BV10	F7
BV11	N5
BV11	E4
BW02	C2
BY01	D0

C12	B8
CA01	D3*
CB01	K2*
CB02	K2*
CB03	K2*
CC01	E1*
CC02	H3*
CC03	F3*
CC04	C2*
CC05	F0
CL01	L2
CL02	L2
CL02	L2*
CL04	L3*
CL05	M2
CL06	L4
CL07	L4*
CL08	K3
CL09	L3*
CL10	K2
CL11	K3
CL12	J3*
CL13	K3*
CL14	K4
CL15	K2*
CM01	M7*
CM02	M7*
CM03	N8*
CM04	G8*
CM05	F8*
CM06	J8*
CM07	M8*
CM08	F8*
CM09	E9*
CM10	J8*

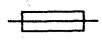
CM11	G7*
CM12	F8
CM13	L7*
CM14	L8*
CM15	M7*
CM16	H7*
CM17	E8*
CM18	J7*
CM19	K8*
CM20	G9*
CM21	G9*
CM22	G9*
CM23	F9*
CM24	K9*
CM25	K9*
CM26	K9*
CM27	J9*
CM28	N8*
CM29	K9*
CM30	K8*
CM31	M8*
CM32	L9*
CM33	M8*
CM34	H8*
CM35	H9*
CM36	E8*
CM37	E9*
CM38	M8*
CM39	N8*
CM40	K8*
CM41	J8*
CM42	F8*
CM43	E9*
CP02	Q7
CP03	R5
CP04	P5
CP05	P5
CP06	P7*
CP07	P7
CP09	R5
CP10	R4
CP12	P8
CP13	N3
CP14	N2
CP15	P2
CP16	Q2
CP17	Q2
CP18	R2
CP19	N2
CP20	P2
CP21	R1
CP22	R2
CP23	Q2*
CP30	R3
CP51	N2
CP53	Q1*
CP56	Q1
CP58	R0*
CP61	Q1*
CP63	Q0*
CP64	Q0
CP80	P8
CP81	P8
CP82	R6
CS01	L5*
CS02	M6*
CS03	K6*
CS04	H4*
CS05	K4*
CS06	K4*
CS07	L4*
CS08	K5*
CS09	L4*
CS10	L5*
CS11	L4*
CS12	L4*
CS13	M4*
CS14	M5*
CS15	M4*

CS16	M5*
CS17	M5*
CS18	N6*
CS19	L5*
CS20	M6*
CS21	M6*
CS23	M6*
CS24	N6*
CS25	N7*
CS26	N7*
CS27	M7*
CS28	M7*
CS29	M7*
CS30	L5*
CS31	L5*
CS32	L5*
CS33	K5*
CS34	J7
CS35	L7
CS36	L7
CS37	J5
CS38	J5
CS39	J5
CS40	J5
CS41	K5
CS42	J6
CS43	J6
CS44	J5
CS45	J5
CS46	J5
CS47	K5
CS48	K5
CS49	K5
CS50	N4*
CS51	N5
CS52	N5*
CS53	N5
CS54	N6*
CS55	J5
CS56	D8
CS57	E8
CT03	K0
CV01	D3*
CV02	G6*
CV03	H6*
CV04	C3*
CV05	B3*
CV06	C3*
CV07	B3*
CV08	B5
CV09	B6*
CV13	C6*
CV14	C7*
CV16	D6*
CV17	C7
CV18	C7
CV19	D7*
CV20	D8*
CV21	E7*
CV22	E7*
CV23	D7
CV24	C5*
CV25	C6*
CV26	C5*
CV27	B5*
CV28	C4*
CV29	B3*
CV30	C4*
CV31	C3*
CV32	C3*
CV33	D5*
CV34	B2*
CV35	B3*
CV36	C3*
CV37	F5*
CV38	F5
CV39	F5*
CV42	F4*
CV43	F5*

CV44	G4*
CV45	F4*
CV46	G4*
CV48	G5
CV49	G5
CV52	G7
CV53	G6*
CV54	G6*
CV55	H6*
CV56	G9*
CV57	B9*
CV58	B8*
CV59	C9*
CV60	A8*
CV61	A7*
CV62	H9*
CV63	G6*
CV64	G5*
CV67	C5*
CV68	B6
CV69	A5
CV70	E6*
CV71	E7*
CV72	D6
CV73	D6*
CV74	C6
CV75	D5*
CV76	C6*
CV77	N8*
CW01	B1*
CW02	M1*
CW03	D3*
CW04	B1*
CW05	A1*
CW07	H8*
CW08	B0*
CW09	B2
CW10	L1*
CW11	L1*
CX01	M2*
CX02	M3*
CX03	M2*

D001	B8*
DB01	L2*
DC01	K1*
DC02	H1*
DC03	H1*
DC04	K1*
DL01	L2*
DL02	L2*
DL03	L2*
DL04	L3*
DL05	L3
DM01	F8*
DM02	L8*
DM03	M9*
DP01	R6
DP02	R6
DP03	Q6
DP04	Q6
DP05	P7
DP06	Q5
DP08	Q5
DP11	P4
DP12	P4
DP13	Q5
DP17	Q4
DP18	Q4
DP19	Q2*
DP20	N3
DP21	N3
DP22	P2
DP23	Q2

DP24	R2
DP25	Q6
DP26	Q6
DP27	P6
DP28	P5
DP29	N4
DP37	R2
DP38	Q1
DP39	P1
DP40	R1
DP41	M1
DP53	Q2*
DP71	Q0
DP72	Q0*
DP74	R3
DP75	Q3
DP76	P2
DR01	F0
DR02	G1*
DR03	G1*
DS01	M6*
DS02	M0
DT01	L0
DT02	K0*
DV01	A7*
DV02	H9*
DV03	H4*
DV04	C7*
DV05	C6*
DW01	B1*
DW02	C2*
DW03	C1*
DW04	C1*
DW05	C1*
DW06	H9*
DX01	M0
DX02	N1
DX03	N0*



FP01 R8

IC01	E1
IC01	E0*
IC02	G3
IC02	G3*
IC03	B3
IC03	A3*
IC04	B3
IL01	L3
IL01	L3*
IM01	G8
IM01	G8*
IP01	P6
IP01	P6*
IS01	M4
IS01	M4*
IS02	M6
IS02	M6*
IS03	J6
IS03	J6*
IT01	K1
IT01	K1*
IV02	G6
IV02	H6*
IW01	C1
IW01	B1*
IW02	L1

IW02	L1*
IW03	N0

J001	A6*
J002	B7*
J003	B8*
J004	C7*
J005	A6*
J006	B8*
J007	B8*
J008	C8*
J009	C7*
J010	E8*
J011	F7*
J012	G7*
J013	G7*
J014	G8*
J015	L8*
J016	K6*
J017	J6*
J018	G5*
J019	B4*
J020	C4*
J021	E7*
J022	C2*
J023	C3*
J024	E7*
J025	D1*
J026	F8*
J027	E0*
J028	K1*
J029	H2*
J030	E1*
J031	F8*
J032	E1*
J033	F0*
J034	F0*
J035	F1*
J036	G0*
J037	G1*
J038	H1*
J039	H0*
J040	H0*
J041	H0*
J042	K1*
J043	K1*
J044	K1*
J045	K1*
J046	M8*
J047	F7*
J048	A5*
J049	A5*
J050	N1*
J051	J2*
J052	F6*
J053	B9*
J054	C9*
J055	E0*
J056	C4*
J057	F8*
J058	D3*
J059	D1*
J060	C0*
J061	C0*
J062	D0*
J063	C0*
J064	A1*
J066	D4*
J067	M1*
J068	F5*
J069	F5*
J071	D2*
J072	D2*
J073	K1*
J074	A2*
J075	A2*

J076	D1*
J077	D0*
J101	A7
J102	B7
J103	B7
J104	B7
J105	B7
J106	B7
J107	B7
J108	B7
J109	B6
J110	B6
J111	B7
J112	C5
J113	C0
J114	D6
J115	P2
J116	D5
J117	D5
J118	B6
J119	D6
J120	D5
J121	D5
J122	E5
J123	B2
J124	B2
J125	B2
J126	F7
J127	F7
J128	E7
J129	E7
J130	E7
J131	Q2
J132	G7
J133	F7
J134	F7
J135	F7
J136	F7
J139	F7
J140	F7
J141	G7
J142	E6
J143	E6
J145	E6
J146	E6
J147	E6
J148	E6
J149	E5
J150	E5
J151	E5
J152	E5
J153	E5
J154	E5
J155	E5
J156	E5
J157	E4
J158	F6
J159	F6
J160	F6
J162	F6
J163	F5
J167	F5
J168	H8
J169	Q6
J170	H8
J171	J8
J172	J8
J173	H7
J174	H7
J175	J7
J176	J7
J177	J7
J178	J7
J179	J7
J181	H6
J182	H5
J183	H6
J184	H5
J185	H5

J186	H5
J188	K8
J189	K8
J190	L9
J191	L8
J192	L8
J193	L8
J194	L8
J195	L8
J196	L8
J197	K7
J199	K7
J200	K6
J201	K6
J202	L6
J203	L6
J204	L6
J205	L6
J206	L5
J207	L5
J208	L5
J209	N8
J210	M7
J211	M6
J212	M6
J213	M6
J214	M5
J215	M5
J216	A4
J217	A4
J220	B4
J221	B4
J222	B4
J223	B4
J224	C4
J225	C4
J226	C4
J227	C4
J228	C4
J229	C4
J230	D4
J233	D4
J234	D4
J235	D4
J238	A1
J239	B3
J240	B2
J241	B2
J242	B2
J243	B2
J245	D3
J247	D2
J248	C2
J249	C2
J250	C2
J251	C2
J252	D2
J253	D2
J254	D2
J255	D2
J256	D2
J257	D2
J258	B0
J259	B0
J260	C0
J263	D1
J264	D1
J265	D1
J266	E1
J268	E2
J269	D3
J270	D3
J271	D3
J272	E3
J273	E3
J274	E3
J275	E3
J276	F3
J276	E2
J277	F2
J278	F2
J279	F2
J280	F2
J281	E2
J282	F2
J283	F2
J284	F2
J285	E1

J286	E1
J287	F1
J288	F1
J289	F1
J290	E0
J291	F1
J292	G1
J293	G2
J294	G2
J295	G2
J296	G2
J297	H3
J298	H3
J299	H3
J300	H3
J301	H4
J302	J4
J303	J4
J305	J3
J306	J2
J308	J3
J309	J3
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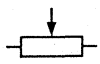
J311	J3
J312	J3
J313	K3
J314	K3
J315	L3
J316	M4
J317	M3
J318	M3
J319	M3
J320	M2
J322	K1
J323	M1
J324	M1
J325	M1
J328	M1
J329	M1
J330	M1
J331	M4
J332	M4
J333	N4
J334	N4
J335	N4
J336	N4
J337	N4
J338	N4
J340	N3
J341	N3
J342	N2
J343	C9
J346	E1
J351	P1
J352	P0
J353	N2
JC01	H3*
JC02	H3*
JC03	H4*
JC04	F1*
JC05	G1*
JC06	F1
JC07	F0
JC08	F1*
JC09	G1*
JC10	H3*
JC11	H3*
JC12	H3*
JD01	C8*
JD02	C8
JP01	Q7
JPO2	R7
JS01	J8
JS02	J8
JV01	E7*
JV02	G5*

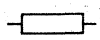
LL01	M2
LP01	Q8
LP02	R7
LP03	Q3
LP03	Q3*
LP12	N7
LP19	N2
LP20	P2

LP22	R2
LS01	K4
LS02	K4
LS03	K5
LS04	L4
LS05	L5
LS06	M5
LV01	B5
LV03	E6
LV04	D7
LV05	B6
LV06	D5
LV07	B2
LV08	G5
LV09	G5
LV10	G6
LV11	H6
LV12	D8
LV13	G8
LV14	C5
LV15	A5
LV16	F4
LV20	D7
LW01	G8
LX01	M3
LX02	M3



PP01	P7
PV01	C6

QL01	K2
QS01	M7
QS02	K6
QS03	K7
QS04	K7
QT01	K0
QV01	C2
QV02	G5
QW01	B0



RA01	D5*
RA02	C5*
RA03	D3*
RA04	C4*
RA05	C3*
RB01	L2*
RB02	K2*
RB03	L2*
RB04	K2*
RB05	K2*
RC01	F3*
RC02	G3*
RC03	G3*
RC04	E2*
RC05	E3*
RC06	F3*
RC07	F3*
RC08	J3
RC09	H3*
RC10	B1*
RC11	G2*
RC12	H1*
RC13	H1*
RC14	H1*
RC15	H1*
RC16	H1*
RC17	H1*
RC18	C2*
RC19	B3*
RC20	J2
RC21	J2
RC22	J2*
RC23	K0*
RC24	K1*
RC74	N8*
RD01	C9*

RD02	C8*
RD03	A8*
RD04	C8*
RD05	C8*
RD06	A7*
RD07	A7*
RD08	B8*
RD09	C8*
RD10	C7*
RD11	C8*
RL01	B4*
RL02	L2*
RL03	L3*
RL04	L2*
RL05	L2*
RL06	L2*
RL07	L4
RL08	L2*
RL10	K2*
RL11	J3*
RL12	K3*
RL13	K3
RL15	L3*
RL16	L3*
RL17	L4*
RL18	K4*
RL19	K3*
RL20	K4*
RM01	M7*
RM02	M7*
RM03	F7*
RM04	F8*
RM05	F9*
RM06	J9*
RM07	H9*
RM08	M8*
RM09	L8*
RM10	K8
RM11	M8*
RM12	M8*
RM13	J8*
RM14	J8*
RM15	F8*
RM16	E8*
RM17	F7*
RM18	G7*
RP01	N1*
RP02	P6*
RP03	P6*
RP04	P5
RP05	Q6*
RP06	Q5
RP07	Q5*
RP08	P5*
RP09	R6
RP10	P6
RP11	P4*
RP12	P7*
RP13	Q4
RP14	P5*
RP16	P7*
RP17	R4
RP18	Q5
RP22	Q1*
RP23	N3
RP25	Q2
RP29	R1*
RP33	N1*
RP34	P2*
RP41	B1*
RP50	Q1
RP51	Q1
RP52	Q2*
RP53	R1*
RP54	R1*
RP56	R1*
RP57	R0*
RP58	R0*
RP59	Q0*
RP61	Q1*
RP62	Q1*
RP63	Q0*
RP64	P1*
RP65	P0*
RP66	P1*
RP67	P0*
RP68	N2*
RP69	P0*

RP71	Q1
RP72	M1*
RP73	P0*
RP74	Q0*
RP80	P8
RR01	G1*
RR02	G0*
RR03	G1*
RR04	G0*
RS01	J5*
RS02	J4*
RS03	K4*
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RS05	L5*
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RS14	M7
RS15	M7
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RS19	L5*
RS20	L5*
RS21	K6*
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RS26	K6*
RS27	K6*
RS28	J7*
RS29	L7*
RS30	L7*
RS31	L7*
RS313	N7*
RS32	L7*
RS33	D8*
RS34	H6*
RS35	K5*
RS36	K5*
RS37	K5*
RS38	N5*
RS39	N5*
RS40	N5*
RS41	E8*
RS42	E8*
RS43	E8*
RS44	C8*
RS45	D8*
RS46	E8*
RS47	D8*
RS48	M1*
RS49	L0*
RS50	L0*
RS51	J7*
RT01	L1*
RT04	K1*
RT05	L1*
RT06	K0*
RV01	B7*
RV02	B7*
RV03	B6*
RV04	B7*
RV05	A7*
RV06	B7*
RV07	B7*
RV08	B6*
RV09	B6*
RV10	C6*
RV11	C6*
RV12	C7*
RV14	C7*
RV15	B7*
RV16	C7*
RV17	C7*
RV19	D7*
RV20	D7*
RV21	D7*
RV22	D7*
RV23	D8*
RV24	D7*
RV25	D8*

RV26	E7*
RV27	D8*
RV28	D6*
RV29	E6*
RV30	D5
RV31	C5*
RV32	C5*
RV33	C5
RV34	B5*
RV35	B6*
RV36	C5
RV37	C5
RV38	B4*
RV39	H2*
RV40	H3*
RV41	C2*
RV42	E4*
RV43	F5*
RV44	G5*
RV45	G5*
RV46	G4*
RV47	G4*
RV49	H7*
RV50	G6*
RV51	F4*
RV52	G4*
RV53	H5*
RV54	G5*
RV55	F5*
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RV58	H6*
RV59	H6*
RV60	G6*
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RV61	H6*
RV62	G7*
RV63	G7*
RV64	H7
RV65	A8*
RV66	L7*
RV67	L7
RV68	L7*
RV70	E8*
RV71	E7*
RV72	H8
RV73	E7*
RV75	L9*
RV77	D6*
RV78	G6*
RV79	H7*
RV80	D6*
RV81	C6*
RV82	D6*
RV83	C6*
RV84	D5*
RV85	L7
RV86	D6*
RV87	C7*
RW01	A1*
RW02	B1*
RW03	B0*
RW04	J2
RW05	B1*
RW06	B1*
RW07	D4
RW08	C1*
RW09	C1*
RW10	N0*
RW11	D1*
RW12	C3*
RW13	C1*
RW14	C1*
RW15	D1*
RW16	A3*
RW17	F7
RW18	A4
RW19	A4
RW20	B2*
RW21	A2*
RW22	B2
RX01	N1
RX01	M0*
RX02	M0*
RX02	M1*
RX03	N0*
RX04	N0*
RY01	D1*
RY02	D0*

SW01	C0
SW02	D0
SW03	Q0

TA01	C4*
TA02	D4*
TB01	L2*
TB02	K2*
TC01	K1*
TD01	D8
TD01	C8*
TD02	C8
TD03	B7*
TD04	C7*
TL01	L2*
TL02	K2*
TM01	M7*
TP01	Q5
TP01	P1*
TP03	N1
TP03	N1*
TP05	P1*
TP06	P1*
TP07	P1*
TP51	Q1
TP51	Q1*
TP53	R1*
TP58	Q1*
TP59	Q0*
TP63	Q1*
TP64	P1*
TP68	P0*
TP71	Q0*
TR01	H1*
TS01	J4*
TS02	L5*
TS03	K5*
TS04	L7*
TS05	N5
TS05	N6*
TS06	N5*
TS07	E8*
TS08	D8*
TS09	D8*
TS10	L0*
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TV08	C7*
TV09	C7*
TV10	D7*
TV11	D6*
TV12	C6*
TV13	B5
TV13	B5*
TV14	C5*
TV15	B5*
TV16	E4*
TV17	G5*
TV18	D6*
TV19	G4*
TV20	F5*
TV21	H7*
TV22	G6*
TV22	G6
TV23	A8*
TV24	L7*
TV25	G7*
TV26	C6*
TV27	D6*
TW01	B2*
TX01	N0*
TX02	N1*